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CLERK, U. S. DISTRICT COURT  
EASTERN DISTRICT OF CALIFORNIA  
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UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA,

Plaintiff,

v.

BEAZER EAST, INC.,

Defendant.

NO. CIV. S-91-767 LKK

ORDER

LOUISIANA-PACIFIC CORPORATION,

Prospective Intervenor.

This matter is before the court on plaintiff's motion to enter the consent decree and Louisiana Pacific's motion to intervene in opposition. During the December 16, 1991 hearing on these motions, the parties indicated that they might be able to resolve this matter without further hearings.

On February 5, 1992, potential intervenor Louisiana-Pacific filed its notice of conditional withdrawal of its opposition to entry of the consent decree subject to this court's issuance of the following order. Accordingly, for good cause shown and without opposition, the court hereby GRANTS plaintiff's motion to enter the

31 1

1 consent decree conditioned upon the following:

2 1. Beazer East, Inc. ("Beazer") agrees to sample at the  
3 Koppers Site for formaldehyde in accordance with the Sampling and  
4 Analysis Plan to be submitted by Beazer and approved by EPA under  
5 the decree. At a minimum, Beazer shall sample at least quarterly  
6 for the first year, at least every six months for the second and  
7 third years, and at a rate after the third year to be agreed upon  
8 between EPA and Beazer. At a minimum, the sampling will include  
9 the BIFAR influent and effluent, and wells MW-1, MW-17, MW-19 and  
10 RW-2. Beazer shall perform this sampling using an analytical  
11 procedures and QA/QC method approved by EPA.

12 2. EPA agrees pursuant to this decree to review the results  
13 of the formaldehyde sampling, to determine whether the remedy set  
14 forth in the ROD is protective of human health and the environment,  
15 and to evaluate the need for any response action by Beazer or  
16 others based on the sampling results.

17 3. Beazer agrees that the data on formaldehyde generated as  
18 a result of the sampling relates to a condition previously unknown  
19 to EPA and discovered after entry of the decree, and is information  
20 received by EPA after the entry of the decree, all within the  
21 meaning of section XXVII(C) of the decree.

22 IT IS SO ORDERED.

23 DATED: February 6, 1992.

24   
25 LAWRENCE K. KARLTON  
26 CHIEF JUDGE EMERITUS  
UNITED STATES DISTRICT COURT

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF CALIFORNIA

Koppers Co CDO1

THE UNITED STATES OF AMERICA

v.

BEAZER EAST INC.

Defendant.

CIVIL ACTION NO.

CONSENT DECREE

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1  
2 This Consent Decree ("Decree" or "Consent Decree") is made  
3 and entered into by and among the United States of America  
4 ("United States"), on behalf of the United States Environmental  
5 Protection Agency ("EPA") ("Plaintiff"), and Beazer East, Inc.,  
6 formerly known as Beazer Materials & Services, Inc.  
7 ("Defendant").  
8

9 WHEREAS, the United States, on behalf of the Administrator  
10 of the EPA, has filed concurrently with this Consent Decree a  
11 complaint in this matter pursuant to the Comprehensive Environ-  
12 mental Response, Compensation, and Liability Act, 42 U.S.C. §  
13 9601 et seq. ("CERCLA"), as amended by the Superfund Amendments  
14 and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat.  
15 1613 (1986) ("SARA") (collectively "CERCLA"), and the Resource  
16 Conservation and Recovery Act, as amended ("RCRA"), 42 U.S.C. §  
17 6973, seeking to compel Defendant to perform remedial actions and  
18 to recover response costs that have been and will be incurred by  
19 the United States in response to releases and threatened releases  
20 of hazardous substances from the facility known as the Koppers  
21 Superfund Site ("Site") located on the Baggett-Marysville Road in  
22 Oroville, California.

23 WHEREAS, pursuant to Section 105(a)(8) of CERCLA, 42 U.S.C.  
24 § 9605(a)(8), EPA proposed the Site for inclusion on the National  
25 Priorities List (NPL) in September 1983 and placed the Site on  
26 the NPL in September 1984.  
27  
28

1 WHEREAS, in response to a release or a substantial threat of  
2 a release of a hazardous substance at or from the Site, a  
3 Remedial Investigation and Feasibility Study ("RI/FS") were con-  
4 ducted for the Site pursuant to 40 C.F.R. § 300.68.

5 WHEREAS, a Remedial Investigation ("RI") Report was com-  
6 pleted in August 1988, and a Feasibility Study ("FS") Report was  
7 completed in May, 1989. Pursuant to Section 117 of CERCLA, 42  
8 U.S.C. § 9617, EPA published notice of the completion of the FS  
9 Report. In May and June 1989, opportunity was provided for  
10 public comment on the proposed remedial action when the FS Report  
11 was released to the public.

12 WHEREAS, the decision by EPA on the remedial action to be  
13 implemented at the Site is embodied in an Operable Unit Record of  
14 Decision (ROD), executed on April 4, 1990, on which the State had  
15 a reasonable opportunity to review and comment.

16 WHEREAS, the Site is a facility as defined in Section 101(9)  
17 of CERCLA, 42 U.S.C. § 9601(9).

18 WHEREAS, Defendant is a person, as defined in Section  
19 101(21) of CERCLA, 42 U.S.C. § 9601(21), and Defendant is a per-  
20 son subject to liability under Section 107(a) of CERCLA, 42  
21 U.S.C. § 9607(a).

22 WHEREAS, wastes and constituents thereof generated by Defen-  
23 dant and disposed of at the Site are "hazardous substances," as  
24 defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), and  
25 the past, present, and potential migrations of hazardous sub-  
26  
27  
28

stances from the Site constitute actual and threatened "releases," as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

WHEREAS, the United States and Defendant recognize, and the Court by entering this Consent Decree finds, that implementation of this Consent Decree will expedite the cleanup of the Site and will avoid prolonged and complicated litigation between the United States and Defendant, and that entry of this Consent Decree is in the public interest.

WHEREAS, pursuant to Section 122 of CERCLA, 42 U.S.C. § 9622, the United States and Defendant have each stipulated and agreed to the making and entry of this Consent Decree prior to the taking of any testimony, in a good faith effort to avoid expensive and protracted litigation, and Defendant does not admit any factual matter relating to Site conditions set forth in this Complaint or this Decree or liability to the Plaintiff arising out of the transactions or occurrences alleged in the complaint.

NOW THEREFORE, it is ORDERED, ADJUDGED, AND DECREED as follows:

#### I. JURISDICTION

The Court has jurisdiction over the subject matter of this action and the signatories to this Consent Decree pursuant to Sections 106, 107, 113 and 122 of CERCLA, 42 U.S.C. §§ 9606, 9607, 9613, 9622 and 28 U.S.C. §§ 1331, 1345. Defendant shall not challenge the Court's jurisdiction to enter and enforce this Consent Decree. Defendant waives service of a summons, and, for



1 the purpose of this Consent Decree, agrees to submit itself to  
2 the jurisdiction and venue of this Court. The Defendant further  
3 agrees to accept service of the complaint in this action by  
4 regular mail.

## 5 6 II. PARTIES

7 A. The parties to this Consent Decree are Plaintiff the  
8 United States of America, on behalf of EPA, and Defendant Beazer  
9 East, Inc.

10 B. Koppers Industries, Inc. ("KII"), is the current owner  
11 and operator of the Property and the wood treatment plant  
12 thereon. The previous Property owner and operator was Koppers  
13 Company, Inc. As of June 30, 1988, BNS Acquisitions, Inc. ("BNS  
14 Acquisitions"), a Delaware corporation and an indirect wholly-  
15 owned subsidiary of Beazer PLC, acquired indirectly more than  
16 ninety percent of the outstanding common stock of Koppers Com-  
17 pany, Inc. On November 14, 1988, BNS Acquisitions acquired in-  
18 directly the balance of the common shares. The Tar and Wood  
19 Products section of Koppers Company, Inc., including the Oroville  
20 Site, was sold to KII on December 28, 1988. On January 20, 1989,  
21 BNS Acquisitions merged into Koppers Company, Inc., and on  
22 January 26, 1989, the name of Koppers Company, Inc., was changed  
23 to Beazer Materials and Services, Inc. On April 16, 1990, the  
24 name of Beazer Materials and Services, Inc., was changed to  
25 Beazer East, Inc.

1 C. KII controls access to the Property and all records and  
2 information with respect to ongoing operations on the Property  
3 and is responsible for addressing environmental compliance issues  
4 relating to such ongoing operations.  
5

6 III. BINDING EFFECT

7 This Consent Decree shall apply to and be binding upon the  
8 United States and upon Defendant and its successor and assigns.  
9 No change in ownership or corporate or partnership status will in  
10 any way alter Defendant's responsibilities under this Consent  
11 Decree. Defendant is responsible and will remain responsible  
12 for carrying out all activities required of Defendant under this  
13 Consent Decree. Defendant shall provide a copy of this Consent  
14 Decree, as entered, and shall provide all relevant additions to  
15 the Consent Decree, as appropriate, to all contractors and sub-  
16 contractors, at the time any such firm is retained to perform any  
17 of the work contemplated by this Decree, and shall condition any  
18 contract for the work upon compliance with this Consent Decree.  
19 Defendant shall nonetheless be responsible for ensuring that its  
20 contractors and subcontractors perform the work contemplated  
21 herein in accordance with this Consent Decree.  
22

23 IV. SITE BACKGROUND

24 A. The Koppers Site includes a 200-acre operating wood  
25 treating plant located in Butte County just south of the city  
26 limits of Oroville, California. The Property has had a lumber  
27  
28

1 mill and then a wood treating plant from approximately 1920 to  
2 the present. Koppers Company, Inc., acquired the Property in  
3 1955 and expanded wood treating operations.

4 B. Chemical preservatives including pentachlorophenol,  
5 creosote and chromated copper arsenate have been applied on the  
6 Property to wood in pressurized treatment vessels. Wood treat-  
7 ment solutions dropped to the ground as the treated wood was  
8 handled. Wastewaters from creosote and pentachlorophenol wood  
9 treating processes were discharged directly to unlined ponds near  
10 the western boundary of the Site. The creosote wastes included  
11 polynuclear aromatic hydrocarbons, a group of compounds found in  
12 creosote. From 1963 to 1973, Koppers Company, Inc., used a caus-  
13 tic solution to rinse excess pentachlorophenol from treated wood  
14 poles over unlined soil. In 1963 there was a fire in a pen-  
15 tachlorophenol treatment process area, and the debris from this  
16 fire was buried on-Site. A second explosion and fire in the pen-  
17 tachlorophenol treatment process occurred in April 1987.

18 C. The western boundary of the Koppers Site is about 3,000  
19 feet east of the Feather River. Portions of the Site lie in the  
20 Feather River flood plain, which is approximately 2.7 miles wide  
21 near the Site. The Property lies about 145 feet above sea level;  
22 the Feather River is about 130 feet above sea level. Surface  
23 water run-off flows from the Koppers Site to the west onto ad-  
24 jacent property owned by the Louisiana Pacific Corporation. This  
25 water flows primarily in a ditch between the two properties, and  
26 through a channel which traverses the former spray fields on the  
27 Koppers Site in a generally northeast to southwest direction.

1       D. The underlying geology of the Site consists of gravels,  
2       sands and clays that were deposited by the Feather River and an-  
3       cestral Feather River systems. Several interconnected aquifer  
4       zones have been defined on and off the Site. The regional ground  
5       water flow is generally to the south, with upper aquifers  
6       demonstrating some southwesterly components.

7       E. Land use in the vicinity of the Site is mixed agricul-  
8       tural, residential, commercial and industrial. Produce and live-  
9       stock raised on local one to five-acre farms are primarily con-  
10      sumed by residents and not sold commercially. Residential areas  
11      are located to the south, southeast, west and northeast of the  
12      Site. Three schools are located within a two-mile radius of the  
13      Site.

14      F. In 1971, pentachlorophenol was detected in Property  
15      groundwater. In 1972, this contamination was found in residen-  
16      tial wells southwest of the Property. In 1973, the California  
17      Regional Water Quality Control Board for the Central Valley  
18      Region ("RWQCB") issued an order to Koppers Company, Inc., which  
19      led to cleanup activities and process changes. That order was  
20      rescinded in 1974. In 1981 the RWQCB and the California Depart-  
21      ment of Health Services directed investigations of Property con-  
22      tamination. The RWQCB issued two orders in 1982 for the cleanup  
23      of contaminated soils and groundwater.

24      G. Site-related constituents found at the Site to date in-  
25      clude, but are not limited to, pentachlorophenol, isopropyl  
26      ether, polychlorinated dibenzodioxins/dibenzofurans  
27      ("PCDDs/PCDFs"), polynuclear aromatic hydrocarbons ("PAHs"), ar-

1    senic, boron, chromium, copper, xylenes and 2,3,4,6-  
2    tetrachlorophenol. These are hazardous substances as defined by  
3    CERCLA § 104(14), and may be toxic and/or carcinogenic to animals  
4    and/or humans.

5        H. There have been releases of hazardous substances at the  
6    Site, allegedly posing numerous threats to human health and the  
7    environment. Wood treating operations and waste water handling  
8    on the Property have deposited Site-related constituents on  
9    Property and Site soils. Water passing over these soils has led  
10   to impacts on surface waters and sediments on Property. These  
11   soils have become airborne due to vehicular traffic and wind ero-  
12   sion. Site-related constituents have, in turn, migrated into  
13   groundwater, which has migrated throughout the Site. Alternative  
14   water supplies are currently used for both on and off-Site drink-  
15   ing water.

#### 17                                    V. DEFINITIONS

18        Unless otherwise expressly provided herein or below, terms  
19    used in this Consent Decree which are defined in CERCLA, or in  
20    regulations promulgated under CERCLA, shall have the meaning as-  
21    signed to them in the statute or regulations. Whenever terms  
22    listed below are used in this Consent Decree or in the Appendices  
23    attached hereto or incorporated hereunder, the following defini-  
24    tions shall apply:

1 A. "CERCLA" shall mean the Comprehensive Environmental  
2 Response, Compensation, and Liability Act, 42 U.S.C. § 9601  
3 et seq., as amended by the Superfund Amendments and  
4 Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat.  
5 1613 (1986).

6 B. "Contractor" shall mean the individual, company or com-  
7 panies retained by or on behalf of Defendant to undertake  
8 and complete the Remedial Action.

9 C. "Covered Matters" shall mean any civil liability to the  
10 United States for causes of action arising under Sections  
11 106 and 107(a) of CERCLA and Section 7003 of RCRA relating  
12 to those conditions which the ROD (Appendix A) is designed  
13 to remedy, the work implemented under Section VIII (Work To  
14 Be Performed), oversight costs associated with the perfor-  
15 mance of that work and for all outstanding past response  
16 costs, including interest accrued thereon, incurred by the  
17 United States.

18 D. "Day" shall mean a calendar day unless expressly stated  
19 to be a working day. "Working day" shall mean a day other  
20 than a Saturday, Sunday or legal federal holiday. In com-  
21 puting any period of time under this Consent Decree, where  
22 the last day would fall on a Saturday, Sunday, or legal  
23 federal holiday, the period shall run until the end of the  
24 next working day.

25 E. "Defendant" shall mean Beazer East, Inc.

26 F. "DHS" shall mean the California Department of Health  
27 Services.

1 G. "EPA" shall mean the United States Environmental  
2 Protection Agency.

3 H. "Koppers Superfund Site" or the "Site" means the  
4 "facility," as that term is defined at Section 101(9)(B) of  
5 CERCLA, 42 U.S.C. § 9601(9)(B), located on the Baggett-  
6 Marysville Road in Oroville, California, consisting of the  
7 Property and all areas where hazardous substances released  
8 or disposed of at or from the Property have come to be lo-  
9 cated.

10 I. "National Contingency Plan" or "NCP" shall refer to the  
11 National Oil and Hazardous Substances Pollution Contingency  
12 Plan, 40 C.F.R. Part 300, recently amended at 55 Fed. Reg.  
13 8666 (March 8, 1990), and including any future amendments  
14 thereto (except to the extent any such amendment is not ap-  
15 plicable by its terms to remedial actions selected and com-  
16 menced prior to the promulgation of such amendment) and  
17 shall be used as that term is referred to in Section 105 of  
18 CERCLA, 42 U.S.C. § 9605.

19 J. "Oversight" means all actions by EPA (and its contrac-  
20 tors) to inspect the remedial work and verify the adequacy  
21 of performance of activities and reports of Defendant as re-  
22 quired under the terms of this Consent Decree and that are  
23 not inconsistent with the NCP.

24 K. "Parties" means the United States, on behalf of EPA,  
25 and Defendant.

26 M. "Plaintiff" means the United States of America, on be-  
27 half of EPA.

1 N. "Property" shall mean the Assessor's Parcels nos. 036-  
2 500-062-000, 036-490-004-000, 036-490-005-000, 036-160-050-  
3 000, 035-440-001-000, 035-440-006-000, located in Butte  
4 County, California. These parcels contain the current KII  
5 wood-treating operations and are part of the Site.

6 O. "RCRA" shall mean the Resource Conservation and  
7 Recovery Act of 1976, Public Law 94-580, 42 U.S.C. §6901  
8 et. seq., as amended by the Hazardous and Solid Waste Amend-  
9 ments of 1984, Public Law 98-616, and any subsequent amend-  
10 ments.

11 P. "Record of Decision" or "ROD" shall mean the document  
12 signed by the EPA Region IX Regional Administrator on April  
13 4, 1990, as changed by the Explanation of Significant Dif-  
14 ferences issued after Defendant executes this Decree but  
15 before the entry of this Decree and which relates to subsur-  
16 face soils, which ROD describes the Remedial Action to be  
17 conducted at the Site, and which is attached hereto as Ap-  
18 pendix A.

19 Q. "Remedial Action" shall mean the implementation of the  
20 ROD, in accordance with Section VIII hereof (Work to be Per-  
21 formed) and other applicable provisions of the Decree, as  
22 may be modified pursuant to the provisions of this Consent  
23 Decree, and any schedules or plans required to be submitted  
24 pursuant to the Decree.



1 R. "Remedial Design" shall mean the phases of the Remedial  
2 Action wherein engineering plans and technical specifica-  
3 tions are developed for implementation of the Remedial Ac-  
4 tion, in accordance with the ROD and this Consent Decree.

5 B. "Remediation Goal(s)" shall mean the level(s) of  
6 clean-up to be achieved in the groundwater, soil, sediments  
7 and surface water at the Site. These levels shall include  
8 those remedial objectives identified in the ROD and those  
9 criteria established by the applicable or relevant and ap-  
10 propriate requirements ("ARARs") identified in the ROD.

11 S. "Response Costs" shall mean those costs incurred by the  
12 United States pursuant to CERCLA and not inconsistent with  
13 the NCP and shall include but are not limited to all over-  
14 sight, administrative, enforcement, removal, investigative  
15 and remedial or other direct or indirect costs.

16 T. "RWQCB" shall mean the California Regional Water  
17 Quality Control Board for the Central Valley Region.

18 U. "Soil Units" shall mean the soil units described in the  
19 ROD.

20 V. "State" shall mean the State of California, acting on  
21 behalf of DHS and RWQCB.

22 W. "United States" shall mean the United States of  
23 America, acting on behalf of EPA.

1 X. "Waste Material" shall mean (1) any "hazardous sub-  
2 stance" under Section 101(14) of CERCLA, 42 U.S.C. §  
3 9601(14); (2) any "pollutant" or "contaminant" under Section  
4 101(33) of CERCLA, 42 U.S.C. § 9601(33); (3) any "hazardous  
5 waste" under Section 1004(5) of RCRA, 42 U.S.C. § 6903(5).  
6

7 VI. PURPOSE

8 A. The purpose of this Consent Decree is to serve the  
9 public interest by protecting the public health, welfare, and the  
10 environment from releases and threatened releases of hazardous  
11 substances at or from the Site through implementation by Defen-  
12 dant of remedial actions and operations, monitoring, and main-  
13 tenance outlined in Section VIII (Work to be Performed) of this  
14 Consent Decree; to obtain reimbursement from Defendant for  
15 Plaintiff's Response Costs; and to settle claims against Defen-  
16 dant asserted by Plaintiff with regard to the conditions which  
17 the ROD is designed to remedy in the Complaint filed in this mat-  
18 ter.

19 B. The ROD for this Operable Unit is set forth in Appendix  
20 A. In general terms, the remedial actions in the Operable Unit  
21 ROD involve design, construction and operation of groundwater ex-  
22 traction, treatment and recharge systems; chemical fixation of  
23 certain contaminated soil; excavation, soil washing and redeposi-  
24 tion of certain contaminated soil; in-place bioremediation of  
25 certain contaminated soil; installation of a cap over the active  
26 process area; and a requirement for cleaning currently inaccess-  
27 sible soils when they become accessible. The Parties agree that  
28

1 this Operable Unit ROD does not necessarily embody the final  
2 remedy for this Site. The Parties agree that the final remedy  
3 will be determined by EPA, after completion of further investiga-  
4 tions and studies and consultation with the State.

5  
6  
7 VII. NOTICE OF OBLIGATIONS TO SUCCESSORS-IN-TITLE

8 A. Defendant shall record and provide notice of the entry of  
9 this Consent Decree and the obligations hereunder to any person  
10 acquiring any interest in property included in the Property if  
11 Defendant has knowledge of any such transfer. Within thirty (30)  
12 days after the entry of this Consent Decree, Defendant shall  
13 record a certified copy of this Consent Decree with the  
14 Recorder's Office, Butte County, State of California, and provide  
15 a copy of the entered Decree to KII.

16  
17 VIII. WORK TO BE PERFORMED

18 A. General Obligations Regarding the Remedial Action

19 1. Defendant shall not conduct any response activities at  
20 the Site with respect to the releases addressed by the ROD ex-  
21 cept: (1) activities specifically authorized under this Section  
22 VIII (Work To Be Performed); or (2) activities required by and in  
23 furtherance of the work under this Consent Decree; or (3) ac-  
24 tivities otherwise specifically authorized, in writing, by EPA.

25 2. Notwithstanding any approvals which may be granted by  
26 the United States or other governmental entities, Defendant shall  
27 assume any and all liability of the United States arising from or  
28

1 relating to Defendant's acts or omissions or the acts or omis-  
2 sions of any of Defendant's contractors, subcontractors, or any  
3 other person acting on Defendant's behalf in the performance of  
4 the Remedial Action or Defendant's failure to perform fully or  
5 complete the Remedial Action. Nothing in this section shall make  
6 Defendant liable for that portion of any negligent act or omis-  
7 sion attributed to the United States or other governmental en-  
8 tities or its employees, agents or contractors.

9 3. Defendant shall appoint a representative ("Project  
10 Coordinator") designated by it to act on its behalf to execute  
11 the Remedial Action, in accordance with Section XIII (Project  
12 Coordinator).

13 4. Defendant shall finance and perform the Remedial Action  
14 for the Site in accordance with this Decree and any modifications  
15 thereto, including the Statement of Work ("SOW") attached hereto  
16 as Appendix C, and in a manner consistent with the ROD attached  
17 hereto as Appendix A. The SOW and the ROD are hereby incor-  
18 porated by reference and made a part of this Decree. The  
19 Remedial Action shall be performed in accordance with all the  
20 provisions of this Decree, or any modifications thereto, and all  
21 design specifications, work plans or other plans or schedules ap-  
22 proved by EPA.

23 5. Defendant shall select a contractor (or contractors) to  
24 supervise the Remedial Action that has professional engineering  
25 expertise in supervising the investigation, design, and remedia-  
26 tion of hazardous waste problems. All Remedial Action work per-  
27 formed pursuant to this Consent Decree shall be under the direc-  
28

tion of such a contractor. Within ten (10) days of the effective date of this Consent Decree, Defendant shall notify EPA in writing of the name, title and qualifications of any supervising contractor proposed to be used in carrying out work under this Consent Decree. Selection of such contractor shall be subject to EPA approval. If EPA disapproves of the selection of any supervising contractor, EPA shall notify Defendant in writing and indicate the reason for disapproval. Defendant shall thereafter propose another contractor in the manner set forth above to EPA within twenty-one (21) days of disapproval of the contractor previously selected. If at any time thereafter Defendant proposes to change supervising contractors, Defendant shall give written notice to EPA and shall obtain approval from EPA before the new supervising contractor performs any work under this Consent Decree.

6. Defendant shall be liable to EPA for any acts or omissions of any of Defendant's contractors, subcontractors or anyone acting on Defendant's behalf in the performance of the Remedial Action, or Defendant's failure to perform fully or complete the Remedial Action, which constitute a violation of this Decree; provided, however, that Defendant shall not be liable to EPA with respect to that portion of any negligent act or omission attributed to EPA or its employees, agents or contractors.

7. To permit planning of the long-term remediation of Soil Unit S3, Defendant shall notify EPA at least fourteen (14) days in advance of any of the following changes in the plant operations located within Soil Unit S3: suspension or temporary reduc-

tion of any plant operations projected to last at least twenty-four (24) months, permanent reduction of any plant operations or permanent termination of any plant operations. In the event EPA decides that such suspension, temporary reduction, permanent reduction or permanent termination would permit remedial action, EPA will so notify Defendant. Defendant shall then submit a work plan to EPA within sixty (60) days after the Defendant receives notice from EPA and shall commence remedial action pursuant to the work plan approved by EPA.

B. Alternative Water Supply

1. Defendant shall continue to finance the provision of an alternative water supply for those water users within the area south of the Property that was annexed to the Oroville-Wyandotte Irrigation District (OWID) in February, 1986 and who were connected at Defendant's expense. Defendant shall continue to pay to such users on an annual basis an amount equal to the average water use bill for all domestic users served by the OWID in the applicable year, and reimburse such users for any amount expended by such users in excess of the average bill for the purchase of water for domestic use (including domestic irrigation) in accordance with OWID regulations. Defendant's obligation shall cease for any such user when, after EPA approval of the report on initial phase of operation of the off-Property groundwater system, the concentration of pentachlorophenol in the well of such user falls below fifty (50) per cent of the ROD's remedial objective

1 for pentachlorophenol for twelve consecutive months, as deter-  
2 mined in accordance with the monitoring program approved by EPA  
3 as part of the SAP and/or Work Plan.

4 a) Potential additional areas. Defendant shall continue  
5 its monitoring of ground water on- and off-Site pursuant to  
6 an EPA-approved ground water monitoring program. If  
7 monitoring results from a well indicate the presence (with a  
8 detection limit not greater than 0.1 parts per billion) of  
9 pentachlorophenol (PCP), Defendant shall sample that well  
10 again within ten (10) days of Defendant's receipt of the  
11 initial positive results. The potentially affected well  
12 shall be upgraded to the next higher sampling frequency  
13 within the monitoring program as provided in the EPA-  
14 approved SAP. If testing of any well shows PCP concentra-  
15 tions in excess of 50% of the ROD's Remediation Goal for  
16 PCP, twice within a one year period, Defendant shall (a) pay  
17 for the connection of the user of the well to the OWID and  
18 (b) pay such user the amounts described above until, after  
19 EPA approval of the report on initial phase of operation of  
20 the off-Property groundwater system, the concentration of  
21 PCP in the well of such user falls below fifty (50) per cent  
22 of the ROD's remedial objective for pentachlorophenol for  
23 twelve consecutive months, as determined in accordance with  
24 the monitoring program approved as part of the SAP and/or  
25 Work Plan. Defendant shall have no further obligations un-  
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1 der this Decree with respect to an alternative water supply  
2 upon receipt by Defendant of a Certificate of Completion  
3 pursuant Section XXXVII of this Decree.

4 2. Defendant shall provide an alternative water supply for  
5 any wells on or off-Site that EPA determines that, when used,  
6 have an adverse impact on the remediation of ground water con-  
7 taining Site-related constituents. Defendant's obligation under  
8 this subparagraph 2 shall not take effect for any well until the  
9 remedial activities impacted by such well actually commence.

10 C. Work To Be Undertaken

11 1. Defendant shall implement the EPA-approved Remedial Ac-  
12 tion Work Plan described in paragraph 2(c) below, including:

13 a) The design and construction of ground water ex-  
14 traction, treatment, and reinjection/recharge systems to  
15 reduce Site-related constituents in on- and off-Property  
16 ground water to the Remediation Goals.

17 b) The design and construction of treatment systems for  
18 soils to meet the Remediation Goals. These remedies shall  
19 consist of:

20 i) In-situ biodegradation of contaminants in soils  
21 in Unit S1 to the Remediation Goals.

22 ii) Excavation, treatment by soil washing, and on-  
23 Property disposal of soils in Unit S2 to meet the  
24 Remediation Goals.

25 iii) Construction of a cap over Unit S3, and, as  
26 necessary, construction of additional extraction wells  
27 immediately downgradient of Unit S3 to contain  
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1 groundwater containing Site-related constituents  
2 migrating from this area. As part of the selected  
3 remedy for this unit, the affected soil beneath the  
4 process area shall be remediated pursuant to paragraph  
5 A(7) of this section in a manner consistent with soil  
6 in other units. The cap design shall incorporate  
7 provisions to contain surface run-off over the process  
8 area from a 24-hour, 100 year storm event. This run-  
9 off will be routed to the on-Property waste water  
10 treatment facility. Cap design will include installa-  
11 tion of lysimeters or other appropriate vadose zone  
12 sampling and monitoring equipment to determine possible  
13 cap leaks.

14 iv) Excavation, treatment by chemical fixation, and  
15 on-Property disposal of treated soils in Unit S4 to  
16 meet the Remediation Goals.

## 17 2. Deliverables

18 a) Any reports, plans, specifications, and schedules re-  
19 quired by this Consent Decree are, upon approval by EPA, in-  
20 corporated into this Decree. Any noncompliance with such  
21 EPA approved reports, plans, specifications, or schedules,  
22 shall be considered a failure to comply with this Consent  
23 Decree and shall subject Defendant to stipulated penalties  
24 as provided in Section XX of this Consent Decree.

25 b) Within fifteen (15) days of the effective date of this  
26 Consent Decree, Defendant shall submit for EPA approval a  
27 plan detailing the schedule and sequence of steps to annex  
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1 additional areas or to take other measures for the purpose  
2 of providing the alternative water supply described in  
3 paragraph B above.

4 c) Within fifteen (15) days of the effective date of this  
5 Consent Decree, Defendant shall submit for EPA approval, a  
6 draft Remedial Action Work Plan based on the ROD and the at-  
7 tached SOW. Within thirty (30) days of Defendant's receipt  
8 of EPA comments on this document, a final Remedial Action  
9 Work Plan shall be submitted to EPA. This Work Plan shall  
10 include a schedule for the submittal of the following  
11 deliverables:

12 i) Remedial Action Sampling and Analysis Plan ("SAP"),  
13 including statistically valid approaches to sampling  
14 and analysis of soils and ground water which will be  
15 used to determine areas of contamination and when  
16 Remediation Goals have been met. The SAP shall conform  
17 to EPA Region 9 guidance regarding sampling and  
18 analysis plans dated April 1990. The SAP shall include  
19 but not be limited to:

- 20 (a) sampling locations;  
21 (b) sampling procedures;  
22 (c) number of samples, duplicates and blanks to  
23 be collected;  
24 (d) a statistically valid approach to sample  
25 soils in Unit S1 to ensure that Site-related  
26 constituents are not being driven deeper  
27 without treatment;  
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1 (e) procedures to test the long-term leachability  
2 of the fixated soil in Unit S4 to demonstrate  
3 that the Remediation Goals can be met;

4 (f) procedures for periodically testing the  
5 stability of fixated soils in Unit S4;

6 (g) procedures for determining, during  
7 treatability testing or design, compliance  
8 with RCRA Land Disposal Restrictions or  
9 State-only waste requirements for soils in  
10 each of the Units due to the inclusion of  
11 listed wastes or characteristic wastes (as  
12 determined by TCLP or State-only waste test-  
13 ing) in soils in that unit; and

14 (h) a Quality Assurance/Quality Control ("QA/QC")  
15 plan.

16 ii) Remedial Action Quality Assurance Project Plan.

17 iii) Data Management Plan. Defendant shall propose to  
18 EPA a plan to manage and organize data collected pur-  
19 suant to this Decree. Upon approval by EPA, Defendant  
20 shall implement the data management plan.

21 iv) Monthly Status Reports. Defendant shall provide  
22 written progress reports to EPA on a monthly basis.  
23 These progress reports shall describe all actions taken  
24 to comply with this Consent Decree, including a general  
25 description of activities commenced or completed during  
26 the reporting period, Remedial Action activities  
27 projected to be commenced or completed during the next  
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1 reporting period, and any problems that have been en-  
2 countered or are anticipated by Defendant in commencing  
3 or completing the Remedial Action activities. These  
4 progress reports shall be submitted to EPA by the 10th  
5 of each month for work done the preceding month and  
6 planned for the current month.

7  
8 v) Design memoranda, plans and specifications for the  
9 initial phases of the S1 (bioremediation), S2 (soil  
10 washing), and S4 (fixation) soil remedies.

11 vi) Conceptual Design Reports, with 30% plans and  
12 specifications, for each of the following: the initial  
13 phase of the on-Property groundwater remedy, the cap  
14 and extraction well system for soil unit S3, and the  
15 expanded phases of all soil and groundwater remedies.

16 These Conceptual Design Reports shall include:

17 (a) selection of water application approach and  
18 groundwater extraction and monitoring design  
19 for in-situ bioremediation of unit S1;

20 (b) selection of operating parameters for soil  
21 washing in unit S2;

22 (c) presentation of results of metals background  
23 study for both ground water and soils, and  
24 the resulting areas and volumes of ground  
25 water and soils with arsenic and chromium  
26 levels in excess of background;

27 (d) documentation of compliance with ARARs;  
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- (e) results of modeling and treatability studies,  
as appropriate;
- (f) Site safety plan, including a worker health  
and safety plan and an emergency response  
plan;
- (g) well locations for extraction/reinjection,  
monitoring extraction effectiveness, injection  
influences, perimeter control monitoring  
and monitoring of the vadose zone as applicable  
to each unit;
- (h) selection of design criteria necessary to  
meet RCRA Land Disposal Restrictions for any  
area containing soils determined to be RCRA  
waste;
- (i) equipment setup plans; and
- (j) dust control plans.
- vii) Prefinal Design Reports, which shall show 70%  
completion of the design, for each of the following:  
the initial phases of the on- and off-Property  
groundwater remedies, the cap and extraction well system  
for soil unit S3, and the expanded phases of all  
soil and groundwater remedies. These Prefinal Design  
Reports shall include:
- (a) construction drawings;
- (b) specifications;
- (c) schedules;
- (d) cost estimates;

- 1                   (e) draft operation and maintenance plan; and  
2                   (f) plan for controlling surface water run-off  
3                   during RA.

4           As part of the Prefinal Design Report for the initial  
5           off-Property groundwater remedy, Defendant shall submit  
6           a summary of the results of groundwater flow and chemi-  
7           cal transport modeling and an evaluation of the exist-  
8           ing off-Property groundwater monitoring system and  
9           recommendations for any revisions thereto.

10          viii) Final Design Reports for each of the following:  
11          the initial phases of the on- and off-Property  
12          groundwater remedies, the cap and extraction well sys-  
13          tem for soil unit S3, and the expanded phases of all  
14          soil and groundwater remedies. These Final Design  
15          Reports shall include:

- 16               (a) all revisions of and additions to the 70%  
17               design;  
18               (b) final construction drawings; and  
19               (c) final bid documents.

20          ix) Semiannual progress reports on the effectiveness  
21          of the treatment technologies in meeting Remediation  
22          Goals. The first such report shall include the results  
23          of any and all treatability or pilot studies completed  
24          prior to the effective date of this Consent Decree.  
25          The semiannual progress reports shall be submitted on  
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1 or before the fifteenth day after the end of each six-  
2 month period following the effective date of this Con-  
3 sent Decree.

4 x) Report on the initial phase of operation of the  
5 off-Property groundwater system, including conclusions  
6 and recommendations regarding the effectiveness of the  
7 system in achieving Remediation Goals.

8 xi) Preliminary report on the initial phase of soil  
9 washing system to provide information on the effective-  
10 ness and operation of the treatment technologies not  
11 provided in the last semiannual report.

12 xii) Preliminary Report on the initial phase of the  
13 soil fixation system to provide information on the ef-  
14 fectiveness and operation of the treatment technologies  
15 not provided in the last semiannual report.

16 xiii) Site-Wide Remedy Report covering the initial  
17 phases of the on-Property groundwater system and the  
18 bioremediation, soil washing and fixation systems.

19 xiv) Report on the leachability and degradation of  
20 Site-related constituents in subsurface soil and the  
21 potential for subsurface soil to act as a continuing  
22 source to groundwater of Site-related constituents.

23 d) The schedule in the Work Plan shall incorporate the  
24 following deadlines which shall be exclusive of EPA review  
25 times:  
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1           i) Submittal of the initial phase design documents  
2           described in paragraph 2(c)(v) above and the report on  
3           the source potential of subsurface soil described in  
4           paragraph 2(c)(xiv) above within seven (7) months of  
5           the effective date of this Consent Decree.  
6           ii) Startup of the initial phase of the off-Property  
7           groundwater remedy shall begin within six (6) months of  
8           the effective date of this Consent Decree.  
9           iii) Startup of the initial phase of the on-Property  
10          groundwater remedy shall begin within twelve (12)  
11          months of the effective date of this Consent Decree.  
12          iv) Startup of the initial phase of the bioremediation  
13          system shall begin within twelve (12) months of the ef-  
14          fective date of this Consent Decree.  
15          v) Startup of the initial phase of the soil washing  
16          system shall begin within twelve (12) months of the ef-  
17          fective date of this Consent Decree.  
18          vi) Startup of the initial phase of the soil fixation  
19          system shall begin within twelve (12) months of the ef-  
20          fective date of this Consent Decree.  
21          vii) Construction of the cap and extraction system for  
22          soil unit S3 shall be completed within twelve (12)  
23          months of the effective date of this Consent Decree.  
24          viii) Submittal of the report on operation of the ini-  
25          tial off-Property groundwater extraction, treatment and  
26          disposal system within fifteen (15) months of startup.  
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1           ix) Submittal of the preliminary report on the initial  
2           phase of the soil fixation system within twelve (12)  
3           months of startup.

4           x) Submittal of the preliminary report on the initial  
5           phase of the soil washing system within fifteen (15)  
6           months of startup.

7           xi) Submittal of the Site-wide Remedy Report for on-  
8           Property groundwater and soil remedies within thirty  
9           (30) months of the effective date of this Consent  
10          Decree.

11          xii) Startup of the final off-Property groundwater  
12          remedy system within twelve (12) months of approval of  
13          the report specified in viii above.

14          xiii) Startup of the final on-Property groundwater  
15          remedy system and the final soil remedy systems within  
16          twelve (12) months of approval of the Site-wide Remedy  
17          Report specified in xi above.

18          e) Within fifteen (15) days of the effective date of this  
19          Consent Decree, Defendant shall submit for EPA approval, a  
20          plan for controlling surface water run-off during construc-  
21          tion and operation of the initial phase of each soil and  
22          groundwater remedy.

23          f) As provided in Section XXXI (State and Local Agency  
24          Participation), a copy of all deliverables described above  
25          shall be submitted concurrently to DHS and RWQCB.  
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1           8. Defendant shall implement the work detailed in the Work  
2 Plan as approved and modified. The fully approved Work Plan  
3 shall be deemed incorporated into and made an enforceable part of  
4 this Consent Decree. Upon approval of the Work Plan by EPA,  
5 Defendant shall file a copy of the Plan with the Court to be in-  
6 corporated into this Consent Decree as Appendix D. Any noncom-  
7 pliance with any EPA approved reports, plans, specifications,  
8 schedules, appendices, or attachments to the Work Plan shall be  
9 considered a failure to comply with this Decree and shall subject  
10 Defendant to stipulated penalties as provided in Section XX  
11 (Stipulated Penalties). All work shall be conducted consistent  
12 with the National Contingency Plan, the EPA Superfund Remedial  
13 Design and Remedial Action Guidance (OSWER Directive 9355.0-4A),  
14 and the requirements of the Consent Decree, including the stan-  
15 dards, specifications and schedules contained in the Work Plan.

16           9. The Parties acknowledge and agree that the Work Plan or  
17 any approvals, permits or other permissions which may be granted  
18 by EPA related to this Consent Decree do not constitute a war-  
19 ranty or representation of any kind by the United States or  
20 Defendant that the Work Plan will achieve the Remediation Goals  
21 set forth in the ROD, and shall not foreclose the United States  
22 from seeking performance of all terms and conditions of this Con-  
23 sent Decree.

24           10. Defendant shall meet all Remediation Goals identified  
25 in the ROD with respect to the Remedial Action at the Site, in-  
26 cluding those listed in Appendix B attached hereto.

1           11. The Parties acknowledge and agree that work performed  
2 in the implementation of the Remedial Action shall comply with  
3 the substantive standards of all "applicable requirements" and  
4 "relevant and appropriate requirements" as those terms are  
5 defined in 40 C.F.R. § 300.6, as generally described in CERCLA  
6 Compliance with Other Environmental Statutes, October 2, 1985 (50  
7 Fed. Reg. 47946, November 20, 1985), and as is required by Sec-  
8 tion 121 of CERCLA, 42 U.S.C. § 9621.

9           12. Defendant shall dispose of any materials containing or  
10 contaminated with Site-related constituents taken off-Site in  
11 compliance with EPA's Revised Procedures for Implementing Off-  
12 Site Response Actions ("OffSite Policy") (EPA OSWER Directive  
13 9834.11, November 13, 1987) and any amendments thereto.

14           13. Defendant shall, pursuant to the EPA-approved schedule  
15 in the Remedial Action Work Plan (see subparagraph 7(d) above),  
16 submit a draft and final of each of the above deliverables  
17 (except the monthly status report). Any failure by Defendant to  
18 submit either a draft or final deliverable in compliance with the  
19 schedule will be deemed a violation of this Consent Decree sub-  
20 ject to stipulated penalties.

21           14. After review of any plan, report, draft deliverable or  
22 other item which is required to be submitted for approval by EPA  
23 pursuant to this Consent Decree, EPA will (a) approve or modify  
24 the submission; or (b) disapprove the submission, notifying  
25 Defendant of the deficiencies and providing a statement of the  
26 reasons EPA deems any deliverable to be deficient.

1           15. Defendant shall, within the time specified in the Work  
2 Plan either: (a) proceed to take any action required by the ap-  
3 proved or modified submission; (b) correct the deficiencies as  
4 determined by EPA and resubmit the plan, report, draft or other  
5 item for approval; or (c) invoke dispute resolution under Section  
6 XXII. In the event EPA determines that there are deficiencies in  
7 the submissions, Defendant shall proceed, at the direction of  
8 EPA, to take any action required by any non-deficient portion of  
9 the submission.

10           16. Any failure by Defendant to revise, modify or correct  
11 deficiencies as directed by EPA within the time specified in the  
12 Work Plan will be deemed a violation of this Consent Decree. Im-  
13 plementation of non-deficient portions of the submission shall  
14 not relieve Defendant of its liability for stipulated penalties  
15 under Section XX (Stipulated Penalties).

16           17. All documents submitted to EPA for approval pursuant to  
17 this Decree shall be sent by overnight mail or some equivalent  
18 delivery service to the EPA Project Coordinator.

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20                           IX. ADDITIONAL WORK

21           A. In the event EPA or Defendant determines that additional  
22 response work is necessary to implement the remedy described in  
23 the ROD or to meet the Remediation Goals set forth in the ROD,  
24 notification of such additional work will be provided to the  
25 Project Coordinator. EPA's notice shall include a written state-  
26 ment explaining the need for the additional work beyond the work  
27 described in the SOW.

1           B. Defendant may also propose additional work. Any addi-  
2           tional work determined to be necessary by Defendant is subject to  
3           approval by EPA.

4           C. Unless otherwise agreed between EPA and Defendant,  
5           within thirty (30) days of receipt of notice from EPA, or of  
6           EPA's receipt of notice from Defendant, that additional work is  
7           necessary pursuant to this Section, Defendant shall submit a Work  
8           Plan to EPA. The plan shall conform to the requirements in Sec-  
9           tion VIII (Work To Be Performed).

10          D. If EPA disapproves the plan pursuant to the provisions  
11          of Section VIII (Work To Be Performed), Defendant, consistent  
12          with Section VIII (Work to Be Performed), shall submit a modified  
13          plan.

14          E. Defendant shall implement the plan as finally approved  
15          by EPA. Any additional work determined to be necessary by Defen-  
16          dant and approved by EPA, or determined to be necessary by EPA to  
17          implement the remedy described in the ROD or to meet the Remedia-  
18          tion Goals shall be completed by Defendant in accordance with  
19          standards, specifications, and schedules approved by EPA, which  
20          shall be consistent with the ROD, CERCLA and the NCP.

21          F. Defendant may invoke the procedures set forth in Section  
22          XXII below (Dispute Resolution) to dispute EPA's determination  
23          that additional work is necessary under this section.

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26                   X. WORKER HEALTH AND SAFETY PLAN  
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1       The Worker Health and Safety Plan that Defendant shall sub-  
2       mit pursuant to Section VIII (Work to be Performed) of this Con-  
3       sent Decree shall be prepared in conformance with applicable Oc-  
4       cupational Safety and Health Administration and EPA requirements,  
5       including but not limited to OSHA regulations found at 54 Fed.  
6       Reg. 9294. The Emergency Response Plan that Defendant shall sub-  
7       mit pursuant to Section VIII (Work to be Performed) of this  
8       Decree shall address both workers at the Site and public exposure  
9       to releases or spills at and from the Site.

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11                   XI.    PERIODIC REVIEW TO ASSURE PROTECTION  
12                   OF HUMAN HEALTH AND THE ENVIRONMENT

13       Notwithstanding the provisions of Section XXVII (Covenant  
14       Not To Sue) and to the extent required by Section 121(c) of  
15       CERCLA, 42 U.S.C. § 9621(c), and any applicable regulations, EPA  
16       will review the Remedial Action at the Site at least every five  
17       (5) years after the entry of this Consent Decree to assure that  
18       human health and the environment are being protected. If upon  
19       such review EPA determines that further response action is ap-  
20       propriate at the Site to comply with CERCLA, EPA shall so notify  
21       Defendant. EPA may then take or require that Defendant take such  
22       response action in accordance with CERCLA.

23                   XII. QUALITY ASSURANCE/QUALITY CONTROL

24       A. The Quality Assurance/Quality Control (QA/QC) plan that  
25       Defendant shall submit pursuant to Section VIII (Work to be Per-  
26       formed) of this Consent Decree shall, where applicable, be  
27       prepared in accordance with current EPA guidance, Interim  
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1 Guidelines and Specifications for Preparing Quality Assurance  
2 Project Plans, QAMS-005/80, or any other EPA guidance identified  
3 by EPA. Additionally, the QA/QC Plan shall include procedures  
4 necessary for the implementation of trial test(s) of the pumping,  
5 treatment and any other process used as part of the Remedial Ac-  
6 tions. The QA/QC Plan shall include a description of the  
7 mechanism used to verify that the processes are operating within  
8 acceptable limits. Upon approval and notice by EPA to Defendant,  
9 Defendant shall implement the Plan.

10 B. Defendant shall use QA/QC procedures in accordance with  
11 the QA/QC plans submitted pursuant to this Decree, and shall  
12 utilize standard EPA chain of custody procedures, as documented  
13 in the National Enforcement Investigations Center Policies and  
14 Procedures Manual as revised in May 1986 and amendments thereto,  
15 and the National Enforcement Investigations Center Manual for the  
16 Evidence Audit, published in September 1981 and amendments  
17 thereto, for all sample collection and analysis activities, un-  
18 less other procedures are approved by EPA. In order to provide  
19 quality assurance and maintain quality control regarding all  
20 samples collected pursuant to this Decree, Defendant shall, at a  
21 minimum, ensure that the following QA/QC measures are employed at  
22 laboratories utilized for analysis:

23 1. All contracts with laboratories utilized by Defendant  
24 for analysis of samples taken pursuant to this Consent Decree  
25 shall provide for access of EPA personnel and EPA authorized rep-  
26 resentatives during normal business hours to assure the accuracy  
27 of laboratory results related to the Koppers Site.

1           2. Any laboratory utilized by Defendant for analysis of  
2 samples taken pursuant to this Consent Decree shall perform all  
3 analyses according to EPA methods as documented in the Contract  
4 Lab Program Statement of Work for Inorganic Analysis and the Con-  
5 tract Lab Program Statement of Work for Organic Analysis dated  
6 July 1985, or methods deemed satisfactory to EPA, and the  
7 laboratory shall submit all protocols to be used for analysis to  
8 EPA in the plans and documents required under this Consent  
9 Decree.

10           3. All laboratories utilized by Defendant for analysis of  
11 samples taken pursuant to this Decree shall participate in an EPA  
12 or EPA equivalent QA/QC program. As part of the QA/QC program  
13 and upon request by EPA, such laboratories shall perform at  
14 Defendant's expense analyses of no more than eight (8) aqueous  
15 and eight (8) soil/sediment samples provided by EPA annually to  
16 demonstrate the quality of each laboratory's data.

17           C. Defendant shall submit a quality assurance report to EPA  
18 as part of the monthly report for the months of December, March,  
19 June, and September each year. This report shall contain infor-  
20 mation that demonstrates that Defendant are complying with this  
21 Section and the QA/QC Plans submitted pursuant to this Decree.

22           D. Sampling data generated consistent with the QA/QC Plans  
23 shall be admissible as evidence, without objection except as to  
24 relevancy, in any proceeding under Section XXII (Dispute Resolu-  
25 tion) of this Decree.



1 E. Notwithstanding any provision of the Consent Decree, the  
2 United States retains all of its information gathering, inspec-  
3 tion and enforcement authorities and rights under CERCLA, RCRA  
4 and any other federal or state statutes or authority.  
5

6 XIII. PROJECT COORDINATOR

7 A. By the effective date of this Consent Decree, EPA and  
8 Defendant shall each designate a Project Coordinator to monitor  
9 the progress of the Remedial Action, to coordinate communication  
10 between EPA and Defendant and to oversee the implementation of  
11 this Consent Decree. EPA and Defendant each has the right to  
12 change its respective Project Coordinator. Such a change shall  
13 be accomplished by notifying the other party in writing at least  
14 five (5) calendar days prior to the change. To the maximum ex-  
15 tent possible, communications between Defendant and EPA and all  
16 documents, including reports, approvals, and other correspondence  
17 concerning the activities performed pursuant to the terms and  
18 conditions of this Consent Decree shall be directed through the  
19 Project Coordinators.

20 B. The EPA Project Coordinator shall have the authority  
21 vested in the On-Scene Coordinator by 40 C.F.R. § 300 et seq.,  
22 including such authority as may be added by amendments to 40  
23 C.F.R. § 300, as well as the authority to ensure that the  
24 Remedial Action is performed in accordance with all applicable  
25 statutes, regulations, and this Consent Decree.  
26  
27  
28

1 C. The EPA Project Coordinator shall also have the  
2 authority to require a cessation of the performance of the  
3 Remedial Action or any other activity at the Site that, in the  
4 opinion of the EPA Project Coordinator, may present or contribute  
5 to an endangerment to public health, welfare, or the environment  
6 or cause or threaten to cause the release of hazardous substances  
7 from the Site. If the required cessation is not attributable to  
8 an act or omission of Defendant, Defendant shall not be subject  
9 to stipulated penalties for the cessation. The absence of the  
10 EPA Project Coordinator from the Site shall not be cause for  
11 stoppage of work.

12 D. Defendant's Project Coordinator may assign other repre-  
13 sentatives, including other contractors, to serve as a Site rep-  
14 resentative for oversight of performance of daily operations  
15 during remedial activities.

16 E. Prior to invoking formal Dispute Resolution procedures,  
17 any unresolved disputes arising between EPA and Defendant or  
18 Defendant's contractors shall be referred to the EPA and  
19 Defendant's Project Coordinators.

#### 20 21 XIV. SITE ACCESS

22 A. During the effective period of this Decree, Defendant  
23 shall provide the United States, EPA, the State and their repre-  
24 sentatives, including contractors, access at all times to the  
25 Site to the extent access is controlled by Defendant, and any  
26 contiguous property owned or controlled by any Defendant.

1           B. To the extent that the Site or other areas where work is  
2 to be performed is currently owned or controlled by parties other  
3 than those bound by this Consent Decree or to the extent that ac-  
4 cess to or easements over property is required for the proper and  
5 complete performance of this Decree, Defendant shall use best ef-  
6 forts to obtain access agreements from the present owners or  
7 those persons who have control over the property, including  
8 lessees, within sixty (60) days of the effective date of this  
9 Consent Decree. Site access agreements shall provide access to  
10 Defendant, Contractor(s), the United States, EPA, the State and  
11 their representatives. In the event that Site access agreements  
12 are not obtained within the sixty (60) day period, Defendant  
13 shall notify EPA within sixty five (65) days of the effective  
14 date of this Consent Decree regarding both the lack of, and ef-  
15 forts to obtain, such agreements. EPA may, as it deems ap-  
16 propriate, assist Defendant in obtaining access. If Defendant  
17 fails to gain access within the 60 days, they shall continue to  
18 use best efforts to obtain access until access is granted. For  
19 purposes of this paragraph, "best efforts" includes but is not  
20 limited to, the payment of reasonable consideration for access.  
21 Defendant shall reimburse the United States, in accordance with  
22 Section XIX of this Decree, for all costs incurred by the United  
23 States in obtaining access, including but not limited to attor-  
24 neys' fees and consideration paid to obtain access.

1 C. Any person obtaining access to the Site pursuant to this  
2 provision shall comply with all applicable provisions of the  
3 Worker Health and Safety Plan as submitted pursuant to Section X  
4 (Worker Health and Safety Plan).

5 D. Notwithstanding any provision of this Consent Decree, the  
6 United States retains all of its access authorities and rights  
7 under CERCLA, RCRA and any other federal or state statute or  
8 authority.

9  
10 XV. ASSURANCE OF ABILITY TO COMPLETE WORK

11 A. Defendant shall demonstrate its ability to complete the  
12 Remedial Action and to pay all claims that arise from the perfor-  
13 mance of the Remedial Action by obtaining, and presenting to EPA  
14 for approval within 30 calendar days after the effective date of  
15 this Decree, one of the following items: 1) a performance bond;  
16 2) a letter of credit; or 3) a guarantee by a third party equal-  
17 ing the total estimated cost of the Remedial Action. In lieu of  
18 any of the three items listed above, Defendant may present to EPA  
19 corporate financial information sufficient to satisfy EPA that  
20 Defendant has enough assets to make it unnecessary to require ad-  
21 ditional assurances. If Defendant relies on corporate financial  
22 information for financial assurance, Defendant shall annually up-  
23 date and submit such corporate financial information at the same  
24 time Defendant is obligated to submit financial information to  
25 EPA under RCRA closure regulations (or, if Defendant is no longer  
26 obligated to submit such information under RCRA, within ninety  
27 (90) days after the close of each fiscal year of Defendant). If  
28

1 at any time EPA determines the assurances to be inadequate,  
2 Defendant shall obtain one of the three other financial instru-  
3 ments listed above within thirty (30) calendar days of such EPA  
4 determination.

5 B. At its discretion, EPA may evaluate the adequacy of the  
6 assurance of ability to complete the work, and, if it is deter-  
7 mined to be inadequate, EPA shall communicate that determination  
8 to Defendant. If Defendant invokes the dispute resolution provi-  
9 sions of this Consent Decree to resolve any dispute over finan-  
10 cial assurances, Defendant shall obtain pending resolution of the  
11 dispute one of the three financial instruments listed above  
12 within twenty-one (21) days of Defendant's notice to EPA under  
13 Section XXII.C of this Decree. Defendant's inability to  
14 demonstrate financial ability to complete the Remedial Action  
15 shall not excuse performance of any activities required under  
16 this Consent Decree.

17 C. As of the effective date of this Decree, Defendant has  
18 presented to EPA corporate financial information, consisting of  
19 the Consolidated Balance Sheet dated June 30, 1989, of Beazer  
20 Materials and Services, Inc., with Notes to the Balance sheet and  
21 with Independent Auditors' Report Thereon, sufficient to satisfy  
22 EPA that Defendant has enough assets to make it unnecessary to  
23 require additional assurances. Pursuant to paragraph A of this  
24 Section, Defendant shall update and submit this corporate finan-  
25 cial information annually from the Decree's effective date at the  
26 same time Defendant is obligated to submit financial information  
27 to EPA under RCRA closure regulations (or, if Defendant is no  
28

1 longer obligated to submit such information under RCRA, within  
2 ninety (90) days after the close of each fiscal year of  
3 Defendant). Pursuant to paragraphs A and B of this Section, EPA  
4 may at any time reevaluate the adequacy of Defendant's as-  
5 surances.

6  
7 XVI. COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS

8 A. All actions required to be taken pursuant to this Con-  
9 sent Decree shall be undertaken in accordance with the require-  
10 ments of all applicable federal, state and local laws, regula-  
11 tions, and permitting requirements, and in accordance with CERCLA  
12 and the NCP. The United States has determined that the ac-  
13 tivities conducted pursuant to this Consent Decree, if approved  
14 by EPA, shall be considered to be consistent with the NCP.

15 B. Defendant shall obtain all permits or approvals neces-  
16 sary under federal, state or local laws and shall submit timely  
17 applications and requests for any such permits and approvals.  
18 Notwithstanding any other provision in this Consent Decree, no  
19 federal, state or local permits shall be required for any work  
20 conducted pursuant to this Consent Decree entirely on-Site.

21  
22 XVII. DATA EXCHANGE: SAMPLING AND ANALYSIS

23 A. Upon request, and subject to the attorney-client  
24 privilege and work product privilege as developed under federal  
25 law, Defendant shall provide EPA and DHS with all technical data  
26 and/or information relating to the implementation of this Consent  
27 Decree, environmental problems, public health threats, Site con-  
28

1 ditions, Site use and history, contaminant incidence and migra-  
2 tion, and regional environmental conditions relating to the Site  
3 as such data and information is available to Defendant, including  
4 but not limited to:

- 5
- 6 1. Previous studies or reports;
- 7 2. Communications between Defendant and local, state  
8 or other federal authorities;
- 9 3. Permits from local, state or federal authorities  
10 regarding hazardous substance use or contamination  
11 at the Site;
- 12 4. Raw analytical, monitoring, sampling, geographi-  
13 cal, hydrogeological, geologic, meteorological,  
14 surface water, seismic, or ambient air data,  
15 resulting from any environmental testing relating  
16 to the Site including documentation of all related  
17 Quality Assurance/Quality Control (QA/QC) results;
- 18 5. Required draft deliverables, final reports, letter  
19 reports, Work Plans, documents, records, files,  
20 memoranda, status reports, chain of custody  
21 records, manifests, trucking logs, receipts,  
22 sample traffic routing, correspondence, or other  
23 documents or information related to the work, and  
24 written material developed using any source, in-  
25 cluding EPA, relating to the Site;
- 26 6. Technical maps, computer generated graphics,  
27 charts, tables, data sheets, geologic cross-  
28 sections, lithologic logs, graphs, photographs,  
slides, or other such material developed relating  
to the Site; and
7. Computerized technical data and information relat-  
ing to the Site including any creation, sorting,  
display and organization of a data base.

B. Under the provisions of Section 104(e) of CERCLA, EPA  
explicitly reserves the right to observe the work of Defendant as  
it is performed. In addition, at the request of EPA, Defendant  
shall allow split or replicate samples to be taken by EPA and/or  
DHS and/or their authorized representatives, of any samples col-

1 lected by Defendant or anyone acting on Defendant's behalf pur-  
2 suant to the implementation of this Consent Decree. Within seven  
3 (7) days after the approval of any sampling plan (including the  
4 schedule for implementation), Defendant shall notify EPA and DHS  
5 of the intended date of commencement of the sampling activity.  
6 In addition, Defendant shall notify EPA and DHS within forty-  
7 eight (48) hours prior to any modifications or proposed changes  
8 to any sample collection activity. Defendant shall notify EPA  
9 and DHS thirty (30) days prior to the disposal of any such  
10 samples, and shall provide EPA with an opportunity to take pos-  
11 session of all or a portion of such samples prior to disposal.

12 C. Defendant may assert business confidentiality claims  
13 covering part or all of the documents or information submitted to  
14 Plaintiff under this Consent Decree to the extent permitted by  
15 and in accordance with Section 104(e)(7) of CERCLA and 40 C.F.R.  
16 2.203(b). Documents or information determined by EPA to be  
17 confidential will be afforded the protection specified in 40  
18 C.F.R. Part 2, subpart B. If no claim of confidentiality accom-  
19 panies documents or information when submitted to EPA and DHS,  
20 the public may be given access to such documents or information  
21 without further notice to Defendant. If EPA has notified Defen-  
22 dant that the documents or information are not confidential under  
23 the standards of Section 104(e)(7) of CERCLA, the public may be  
24 given access to such documents or information without further  
25 notice to Defendant unless Defendant has invoked dispute resolu-  
26 tion under Section XXII below.



1 D. Defendant shall make no claim of confidentiality with  
2 respect to any data, including but not limited to, all sampling,  
3 analytical, monitoring, hydrogeologic, scientific, chemical, or  
4 engineering data, or any other documents or information evidenc-  
5 ing conditions at or around the Site. All such data, information  
6 and documents submitted to EPA and DHS shall be subject to public  
7 inspection.

8  
9 XVIII. RETENTION OF RECORDS

10 A. Defendant shall preserve and retain all records and  
11 documents in its possession or control or in the possession or  
12 control of its divisions, employees, agents, accountants, con-  
13 tractors or attorneys which relate in any manner to this Consent  
14 Decree or to Waste Materials at the Site, regardless of any docu-  
15 ment retention policy to the contrary, for ten (10) years after  
16 the completion of the Remedial Action.

17 B. Until this ten (10) year period expires, Defendant shall  
18 preserve, and shall instruct all contractors, all contractor's  
19 subcontractors, and anyone else acting on Defendant's behalf at  
20 the Koppers Site to preserve (in the form of originals or exact  
21 copies, or in the alternative, microfiche of all originals) all  
22 records, documents and information of whatever kind, nature, or  
23 description relating to Waste Materials at the Site or to this  
24 Decree.

25 C. After this ten (10) year period, Defendant shall notify  
26 EPA and DHS no later than sixty (60) days prior to the destruc-  
27 tion of such documents. Upon request by EPA or DHS made within  
28

1 thirty (30) days of such notice, Defendant shall, subject to any  
2 privilege recognized by federal law and to any available con-  
3 fidentiality claim, make available to the requesting party  
4 originals or copies of any such records, documents or information  
5 prior to their destruction; provided, however, that all docu-  
6 ments, records or information created, generated or collected  
7 pursuant to the requirements of this Decree shall not be withheld  
8 on the grounds that they are privileged.

9 D. Defendant certifies that it has not altered, mutilated,  
10 discarded, destroyed or otherwise disposed of any records, docu-  
11 ments or other information relating to its potential liability  
12 with regard to the Site since notification of potential liability  
13 by the United States.

14  
15 XIX. REIMBURSEMENT OF UNITED STATES' COSTS

16 A. Past Costs

17 Defendant agrees pursuant to this Consent Decree to reim-  
18 burse the Hazardous Substance Superfund for all Response and  
19 Oversight costs incurred by the United States, including but not  
20 limited to EPA and the United States Department of Justice  
21 ("DOJ"), with respect to the Site after March 31, 1988 through  
22 and including September 30, 1990, not inconsistent with the NCP,  
23 within thirty (30) days of receipt of EPA's demand and documenta-  
24 tion for such costs. Defendant shall reimburse all costs  
25 referred to in this paragraph by remitting a check for the amount  
26 of those costs made payable to the Hazardous Substance Superfund.  
27 The check should reference the Koppers Site, and be addressed to:

1 U.S. Environmental Protection Agency  
2 Region 9 ATTENTION:  
3 Superfund Accounting  
4 P.O. Box 360863M  
Pittsburgh, PA 15251  
Attn: Collection Officer for Superfund

5 A copy of the transmittal letter and a copy of the check shall be  
6 sent simultaneously to the EPA Project Coordinator as provided in  
7 Section XXIII (Form of Notice).

8  
9 B. Ongoing Response and Oversight Costs

10 Defendant agrees to reimburse the Hazardous Substance Super-  
11 fund for all Response and Oversight Costs incurred by the United  
12 States, including but not limited to EPA and DOJ, with respect to  
13 the Site after September 30, 1990, or under or in connection with  
14 this Consent Decree, not inconsistent with the NCP, including  
15 costs incurred by EPA for any activities outlined in Section VIII  
16 (Work to be Performed) performed by EPA in accordance with  
17 paragraph B of Section XXVI of this Decree and for activities  
18 performed by EPA under Section XI (Periodic Review to Assure  
19 Protection of Human Health and the Environment), and for costs  
20 incurred by EPA to oversee and review the work of Defendant. No  
21 more often than annually from September 30, 1990, EPA shall sub-  
22 mit to Defendant a demand for all Response and Oversight costs,  
23 plus supporting documentation, incurred by the United States in  
24 the time period since the last demand for payment. EPA's failure  
25 to include costs incurred during a period in the demand for that  
26 period shall not relieve Defendant of its obligation to reimburse  
27 EPA for such costs when demanded during a later period. Defen-

1 dant shall, within thirty (30) days of receipt of each demand and  
2 documentation for payment, remit a check for the amount of the  
3 total costs made payable to the Hazardous Substance Superfund.  
4 The check should reference the Koppers Site and be sent to the  
5 address listed above in paragraph A of this Section. A copy of  
6 the transmittal letter and a copy of the check shall be sent  
7 simultaneously to the United States and the EPA Project Coordinator as provided in Section XXIII (Form of Notice).

9 C. Documentation.

10 EPA's obligation to provide Defendant with "documentation"  
11 as specified in Paragraphs A and B of this Section shall be  
12 satisfied as follows:

13 1. For past costs described in paragraph A above, EPA  
14 will furnish Defendant with EPA's CDMS data, including a  
15 summary of the United States' indirect costs and interest  
16 calculations, or the equivalent data supplied to EPA at the  
17 time EPA is required to furnish Defendant with documenta-  
18 tion, and backup documentation for this data, consisting of  
19 contractor workplans, monthly reports or final reports from  
20 contractors, applicable paid contractor invoices, treasury  
21 schedules evidencing payment, and EPA employee timesheets  
22 and travel vouchers. EPA's obligation to provide such  
23 backup documentation is subject to 5 U.S.C. §552(a) and 40  
24 C.F.R. Part 2.

25 2. For ongoing response and oversight costs described  
26 in paragraph B above, EPA will furnish Defendant with EPA's  
27 CDMS data, including a summary of the United States' in-  
28

1 direct costs and interest calculations, or the equivalent  
2 data supplied to EPA at the time EPA is required to furnish  
3 Defendant with documentation, and backup documentation for  
4 this data, consisting of contractor workplans, monthly  
5 reports or final reports from contractors, applicable paid  
6 contractor invoices, and treasury schedules evidencing pay-  
7 ment. EPA's obligation to provide such backup documentation  
8 is subject to 5 U.S.C. §552(a) and 40 C.F.R. Part 2.

9 D. Dispute Resolution.

10 If Defendant intends to dispute any portion of the costs to  
11 be reimbursed under this Section, Defendant must notify EPA  
12 within thirty (30) days after receipt of the demand for payment.  
13 The notice shall identify the contested costs and the basis for  
14 objection. In the event of an objection, Defendant shall, within  
15 the thirty (30) day period following receipt of demand, pay all  
16 uncontested costs in the manner described in paragraph A above.  
17 Upon receipt of notice of an objection, EPA will then compile an  
18 administrative record regarding the costs, including any comments  
19 submitted by Defendant within the thirty (30) day period after  
20 receipt of the demand for payment. Unless the Parties agree  
21 otherwise, within fifteen (15) days of the date EPA notifies  
22 Defendant that the administrative record has been compiled,  
23 Defendant may petition the Court to dispute its liability for the  
24 costs. Unless the Court establishes a different period, the  
25 United States shall have thirty (30) days to respond to the peti-  
26 tion. Defendant may contest its liability to pay the costs  
27 solely on the grounds that the costs were incurred inconsistently  
28

1 with the NCP, that the mathematical calculations used to deter-  
2 mine costs were performed incorrectly or that the work was not  
3 performed for the Site. The review of Defendant's petition shall  
4 be limited to the administrative record compiled by EPA. The  
5 standard of review for a claim that the costs were incurred in-  
6 consistently with the NCP, that the mathematical calculations  
7 used to determine the costs were performed incorrectly or that  
8 the work was not performed for the Site shall be governed by  
9 general principles of administrative law; provided, however, that  
10 for a claim that the costs were incurred inconsistently with the  
11 NCP, underlying determinations by EPA relating to the selection  
12 or adequacy of a response action shall be upheld unless the  
13 determination is shown by Defendant to be arbitrary and capri-  
14 cious. Defendant shall bear the burden of coming forward with  
15 evidence and of persuasion on factual issues. Should the Court  
16 determine that costs are owed by Defendant, Defendant shall remit  
17 a check for such costs within five (5) days of the Court's deter-  
18 mination in the manner set forth in paragraph A above, including  
19 interest as set forth in paragraph E below, calculated from the  
20 date undisputed costs were due. The dispute resolution proce-  
21 dures set forth in this paragraph shall be the exclusive  
22 mechanism for resolving disputes regarding Defendant's obligation  
23 to reimburse EPA for its costs.

24 E. Interest.

25 In the event that the payments required by Paragraphs A  
26 and B above are not made within the time periods specified  
27 therein, Defendant shall pay interest on the unpaid balance at  
28

1 the rate established pursuant to Section 107(a) of CERCLA. The  
2 interest shall begin to accrue on the day after the last day per-  
3 mitted for payment as specified in paragraphs A and B above. Pay-  
4 ments made under this paragraph shall be in addition to such  
5 other remedies or sanctions available to EPA by virtue of  
6 Defendant's failure to make timely payments under this Section.

7  
8  
9 XX. STIPULATED PENALTIES

10 A. Defendant shall pay the United States stipulated  
11 penalties as provided herein for any failure to comply with the  
12 terms of this Consent Decree. Compliance by Defendant shall in-  
13 clude completion of the activities under this Consent Decree or  
14 any other plan approved under this Consent Decree in accordance  
15 with all applicable requirements of law, this Decree, the State-  
16 ment of Work and any plans or other documents approved by EPA  
17 pursuant to this Decree and within the specified time schedules  
18 established by and approved under this Decree. Penalties shall  
19 accrue from the day performance of a requirement is due or at the  
20 time a violation of this Decree occurs and shall continue to ac-  
21 crue through the final day of the noncompliance. Separate  
22 penalties shall accrue for separate violations of this Consent  
23 Decree. EPA may, in its sole discretion, waive the imposition of  
24 stipulated penalties.

25 B. Stipulated penalties under this Section shall be paid  
26 upon demand, by check made payable to the Hazardous Substance Su-  
27 perfund, and addressed as indicated in Section XIX (Reimbursement  
28

1 of United States' Costs) and shall be paid within thirty (30)  
2 days of receipt of the demand for payment of stipulated  
3 penalties. Defendant shall pay interest on the unpaid balance,  
4 which shall begin to accrue at the end of the thirty-day period  
5 at the rate established by the Department of Treasury under 31  
6 U.S.C. § 3717 and 4 C.F.R. § 102.13. Defendant shall further pay  
7 a handling charge of 1 percent (1%), to be assessed at the end of  
8 each 30-day period. A copy of the check and the letter forward-  
9 ing the check, including identification of this Consent Decree  
10 and a brief description of the triggering event, shall be sub-  
11 mitted to the United States in accordance with the directions set  
12 forth in Section XXIII (Form of Notice).

13 C. Notwithstanding the stipulated penalties provisions of  
14 Paragraphs A and B of this Section, EPA may pursue any other  
15 remedy or sanction to enforce this Consent Decree, and nothing  
16 shall preclude EPA from seeking statutory penalties against  
17 Defendant for violations of statutory or regulatory requirements.  
18 The amount of any statutory penalty to be paid by Defendant shall  
19 be reduced by the amount of stipulated penalties paid by Defen-  
20 dant for the same violation.

21 D. In the event EPA assumes the performance of a portion or  
22 all of the Remedial Action, pursuant to Section XXVI (Reservation  
23 of Rights), Defendant shall be liable for: (1) stipulated  
24 penalties pursuant to this Section; or, at the option of EPA, (2)  
25 a stipulated penalty equaling the lesser of one million dollars  
26 (\$1,000,000) or twice EPA's response costs in assuming perfor-  
27 mance of a portion or all of the Remedial Action. If EPA assumes  
28



1 performance of a portion of or all the Remedial Action, Defendant  
2 shall reimburse EPA for the costs of doing such work plus  
3 penalties within thirty (30) days of receipt of demand for pay-  
4 ment of such costs and penalties.

5 E. Any reports, plans, specifications (including discharge  
6 or emission limits), schedules, appendices, and attachments re-  
7 quired by this Consent Decree are, upon approval by EPA, incor-  
8 porated into this Consent Decree. Any noncompliance with such  
9 EPA approved reports, plans, specifications (including discharge  
10 or emission limits), schedules, appendices, and attachments shall  
11 be considered a failure to comply with this Consent Decree and  
12 subject to stipulated penalties as governed by this Section.

13 F. Defendant shall pay the following stipulated penalties  
14 for each failure to comply with the requirements of this Decree:

15 1. Class I Requirements

16 For late or otherwise noncomplying submission of a  
17 Monthly Progress Report or periodic Groundwater Monitoring  
18 Report: Five hundred dollars (\$500) per day.

19 2. Class II Requirements

20 a) For late or otherwise noncomplying submission of any  
21 deliverable other than the deliverables described under sub-  
22 paragraphs F(1) or F(3) of this Section or for any other  
23 failure to comply with the requirements of this Decree ex-  
24 cept for failures to comply described in 2(b) below:

<u>Period of Failure to Comply</u>	<u>Penalty per Violation per Day</u>
1st through 14th day	\$ 2,000
15th through 30th day	5,000

31st day and beyond 12,000

b) For failures to comply with the construction deadlines  
for Remedial Action:

Period of Failure to Comply      Penalty per Violation per Day

1st through 10th day \$ 1,000

11th through 20th day 2,000

21st through 30th day 5,000

31st day and beyond 12,000

3. Class III Requirements

For late or otherwise noncomplying submission of draft  
or final Remedial Action Work Plan; Sampling and Analysis  
Plan; Design Memoranda and Plans & Specifications for initial  
phases of S1, S2 and S3 remedial activities; Final Design  
Reports for (1) initial phase of On- and Off-Property  
groundwater systems, (2) S3 cap and extraction well system,  
and (3) expanded phases of all soil and groundwater systems;  
Report on initial phase of Off-Property groundwater system  
operation; and Site-Wide Remedy Report:

Period of Failure to Comply      Penalty per Violation per Day

1st through 14th day \$ 5,000

15th through 30th day 10,000

31st day through 45th day 15,000

46th day and beyond 20,000

G. The amount of stipulated penalties due for each violation  
under this Section is not subject to dispute resolution under  
Section XXII (Dispute Resolution).

XXI. FORCE MAJEURE

A. For purposes of this Consent Decree, force majeure is defined as any event arising from causes beyond the control of Defendant, or its contractors, subcontractors, agents or consultants which delays or prevents the performance of any obligation under this Consent Decree notwithstanding Defendant's best efforts to avoid the delay. The requirement that Defendant exercise "best efforts to avoid the delay" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event (1) as it is occurring and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent practicable. When circumstances are occurring or have occurred that delay or may delay the completion of any phase of the Remedial Action, whether or not due to a force majeure event, Defendant shall, no later than four (4) days after Defendant becomes aware or should have become aware of the force majeure event, notify EPA's Project Coordinator orally and shall, within seven (7) days of oral notification to EPA notify the EPA Project Coordinator in writing of: the anticipated length and cause of the delay; the reasons why the delay is beyond the control of Defendant; which of the tasks are directly affected by the delay; the measures taken and/or to be taken to prevent or minimize the delay; and the timetable by which Defendant intends to implement these measures and any aspects of the event which

1 may cause or contribute to an endangerment to public health, wel-  
2 fare or the environment, or an explanation of why any of this in-  
3 formation cannot be provided.

4 B. Economic hardship, normal inclement weather, increased  
5 costs of performance and the failure of Defendant to make timely  
6 application for any required permits or approvals and to provide  
7 all information required therefore, to the extent Defendant was  
8 aware or should have been aware of the requirements for such in-  
9 formation, in a timely manner shall not be considered events  
10 beyond the control of Defendant, its contractors, subcontractors,  
11 agents or consultants and shall not trigger the force majeure  
12 provision.

13 C. EPA shall determine whether the event constitutes force  
14 majeure. If EPA determines that the event did not constitute  
15 force majeure, then any delay caused by the event claimed to be  
16 force majeure by Defendant shall constitute non-compliance with  
17 the Consent Decree and penalties shall accrue from the time of  
18 noncompliance. If EPA determines the event does constitute force  
19 majeure, it shall determine the appropriate modification to the  
20 schedules for all tasks affected by the event.

21 D. No deadline shall be extended beyond that period of time  
22 which is necessary to complete the activities with the least  
23 amount of delay possible and in no case beyond the actual delay  
24 attributable to the force majeure event. Use of the force  
25 majeure provision shall not relieve Defendant of its duty to com-  
26 plete all other tasks not affected by the event in a timely man-  
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1 ner in accordance with the schedule set forth in this Consent  
2 Decree. Defendant shall adopt all measures to avoid or minimize  
3 delay.

4 E. Failure of Defendant to comply with the requirements of  
5 this Section shall preclude Defendant from asserting any claim of  
6 force majeure.

7 F. If EPA and Defendant cannot agree as to whether the  
8 reason for the delay was a force majeure event, the determination  
9 of EPA shall control. If Defendant disputes this determination,  
10 the dispute shall be resolved by the procedures outlined in Sec-  
11 tion XXII (Dispute Resolution) of this Consent Decree. Defendant  
12 may also invoke dispute resolution to dispute the length of any  
13 extension granted by EPA for a event of force majeure. In any  
14 such proceeding, to qualify for a force majeure defense, Defen-  
15 dant shall have the burden of demonstrating by a preponderance of  
16 the evidence that the delay or anticipated delay has been or will  
17 be caused by a force majeure event, that the duration of the  
18 delay was or will be warranted under the circumstances, that best  
19 efforts were exercised to avoid and mitigate the effects of the  
20 delay, and that Defendant complied with the requirements of this  
21 Section.

22 G. Nothing in this Section XXII shall preclude EPA and  
23 Defendant from agreeing to modify any established schedule for  
24 reasons other than occurrence of an event of force majeure.

25  
26 XXII. DISPUTE RESOLUTION  
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1           A. As required by Section 121(e)(2) of CERCLA, EPA and  
2 Defendant shall attempt to resolve expeditiously and informally  
3 any disagreements concerning implementation of this Consent  
4 Decree or any work required hereunder.

5           B. Any dispute which arises with respect to this Consent  
6 Decree, regardless of whether the Section or Sections relating to  
7 such dispute expressly provide for dispute resolution, shall in  
8 the first instance be the subject of informal negotiations be-  
9 tween EPA and Defendant, pursuant to Paragraph C of this Section.  
10 In the event the parties cannot resolve any dispute arising under  
11 this Consent Decree, then the decision of EPA shall be considered  
12 binding unless Defendant invokes the dispute resolution provi-  
13 sions of this Section. Defendant's decision to invoke dispute  
14 resolution shall not constitute a force majeure under Section XXI  
15 (Force Majeure). Use of any provision of this Section shall not  
16 stay the accrual of penalties under Section XX (Stipulated  
17 Penalties); provided, that if Defendant files a petition pursuant  
18 to paragraph D below, EPA will not demand payment of penalties  
19 accrued until completion of the dispute resolution process. Use  
20 of any dispute resolution provision of this Section shall not  
21 relieve Defendant of its duty to complete required actions not  
22 affected by the dispute in a timely manner in accordance with  
23 this Consent Decree.

24           C. If Defendant objects to any EPA decision, Defendant  
25 shall notify EPA in writing of its objections within ten (10)  
26 calendar days of receipt of the decision. EPA and Defendant will  
27 then have an additional fourteen (14) calendar days from receipt  
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1 by EPA of the notification of objection to reach agreement.  
2 Within five (5) business days after the end of the fourteen (14)  
3 day discussion period, EPA shall provide a written statement of  
4 its decision to Defendant, with which decision Defendant shall  
5 comply unless Defendant invokes the provisions of paragraph E  
6 below.

7 D. If Defendant triggers the fourteen-day discussion  
8 period, EPA will compile an administrative record regarding the  
9 dispute. The administrative record will include all statements  
10 of position, including supporting documentation, documents, let-  
11 ters, reports or other submittals made by Defendant regarding the  
12 dispute prior to the expiration of the fourteen day period.

13 E. Petition Filed In Court:

14 1. In the event that the dispute cannot be resolved by  
15 the informal negotiation procedures outlined in Paragraphs A, B  
16 and C above, and should Defendant choose not to comply with EPA's  
17 decision, Defendant may file with the Court, within fourteen (14)  
18 days of receipt of EPA's final written position, a petition that  
19 shall describe the nature of the dispute and include a proposal  
20 for its resolution. Defendant shall not file such a petition un-  
21 til EPA provides its written decision at the end of the 14-day  
22 informal negotiation period pursuant to Paragraph C above or the  
23 time for providing such decision has expired.

24 2. Unless the Court establishes a different period for  
25 response, the United States shall have thirty (30) days to  
26 respond to the petition. For any dispute pertaining to the  
27 selection or adequacy of any response action, the decision of EPA  
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1 shall be upheld unless Defendant demonstrates, on the administra-  
2 tive record compiled pursuant to paragraph D above, that the  
3 decision was arbitrary and capricious or otherwise not in accor-  
4 dance with law. For purposes of this paragraph, the adequacy of  
5 any response action includes the adequacy or appropriateness of  
6 plans, procedures to implement plans, or any other items requir-  
7 ing approval by EPA under this Decree, and the adequacy of  
8 response actions performed pursuant to this Decree. Judicial  
9 review of disputes not pertaining to the selection or adequacy of  
10 any response action shall be governed by general provisions of  
11 administrative law. In proceedings on any dispute, Defendant  
12 shall bear the burden of coming forward with evidence and of per-  
13 suasion on factual issues.

14 3. If the Court upholds EPA's determination, Defendant  
15 shall transmit payment of all penalties which have accrued during  
16 the dispute and are demanded by EPA, plus interest as specified  
17 in Section XX (Stipulated Penalties) to the Hazardous Substance  
18 Superfund, addressed as indicated in Section XIX (Reimbursement  
19 of United States' Costs), within fifteen (15) days of EPA's  
20 demand for payment. Defendant shall then implement the disputed  
21 matter as resolved and perform the work which was the subject of  
22 the dispute, if required, within a time established by EPA. The  
23 appropriate plans should be amended to reflect the resolution of  
24 the dispute.

25 4. In any dispute in which Defendant prevails: (1) the  
26 deadlines for any affected deliverables or work shall be extended  
27 as necessary to account for any delays attributable to the dis-  
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pute resolution procedures; and (2) any penalties which would otherwise accrue for violation of any affected deliverable or schedule shall be waived.

XXIII. FORM OF NOTICE

When notification to or communication with the United States, EPA, DHS, Defendant, or others is required by the terms of this Consent Decree, it shall be in writing, postage prepaid, and addressed as follows:

As to the United States:

William A. Weinischke, Esq.  
Environmental Enforcement Section  
Environment and Natural Resources Division  
Department of Justice  
10th and Pennsylvania Avenue, N.W.  
Washington, DC 20530

As to EPA:

Fred Schauffler  
EPA Project Coordinator  
Superfund Enforcement Branch (H-7-2)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

Greg Ritter  
Assistant Regional Counsel (RC-3)  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

As to Defendant:

David R. Kerschner  
Program Manager - Environmental Services  
Beazer East, Inc.  
436 Seventh Avenue  
Pittsburgh, PA 15219

1 Billie S. Nolan, Esq.  
2 Legal Services Group  
3 Beazer East, Inc.  
4 436 Seventh Avenue  
5 Pittsburgh, PA 15219

6 Ronald C. Hausmann, Esq.  
7 Tuttle & Taylor  
8 33 New Montgomery Street  
9 Suite 1900  
10 San Francisco, CA 94195

11 Feather River Project Manager  
12 Dames & Moore  
13 221 Main Street, Suite 600  
14 San Francisco, CA 94105

15 As to DHS:

16 Val F. Siebal  
17 Regional Administrator, Region 1  
18 Toxic Substances Control Program  
19 California Department of Health Services  
20 10151 Croydon Way  
21 Sacramento, CA 95827  
22 Attn: Ed Cargile

23 As to RWQCB:

24 James C. Pedri  
25 Supervising Engineer  
26 Central Valley Regional Water Quality  
27 Control Board  
28 415 Knollcrest Drive  
Redding, CA 96002  
Attn: Phil Woodward

XXIV. MODIFICATION

No modification shall be made to this Consent Decree without written notification to and written approval of the United States and Defendant, which notification and written approval shall be filed with the Court; provided, however, that modifications that do not materially alter the requirements of this Consent Decree and any modifications of the Work Plan may be made upon the written consent of the United States and Defendant. The notification

1 required by this Section shall set forth the nature of and  
2 reasons for the requested modification. No oral modification of  
3 this Consent Decree shall be effective. Nothing in this Section  
4 shall be deemed to alter the Court's power to supervise or modify  
5 this Consent Decree. In addition, nothing herein shall be deemed  
6 to limit EPA's authority to modify the ROD in accordance with  
7 CERCLA and the NCP; provided, however, that Defendant shall not  
8 be required to perform any additional work under this Consent  
9 Decree required by an Explanation of Significant Differences or a  
10 ROD amendment issued after the date Defendant executes this  
11 Decree, except that Explanation of Significant Differences issued  
12 before the entry of this Decree and which relates to subsurface  
13 soils.

#### 14 15 XXV. ADMISSIBILITY OF DATA

16 In any proceeding under Section XXII (Dispute Resolution)  
17 and in any proceeding under this Consent Decree, the Parties  
18 waive any evidentiary objection as to the authenticity of data  
19 gathered, generated, or evaluated by any Party in the performance  
20 or oversight of the work under this Decree that has been verified  
21 using the Quality Assurance and Quality Control procedures  
22 specified in Section XII (Quality Assurance and Quality Control).  
23 For the purpose of this action only, the Parties also waive any  
24 objections based on hearsay to the introduction of such data.

#### 25 26 XXVI. UNITED STATES' RESERVATION OF RIGHTS

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1           A. Notwithstanding compliance with the terms of this Con-  
2   sent Decree, including the completion of an EPA approved Remedial  
3   Action, Defendant shall not receive a Covenant Not To Sue from  
4   the United States for any matters other than those expressly  
5   specified to be Covered Matters. Notwithstanding any other  
6   provision in this Decree, the Covenant Not to Sue, as provided in  
7   Section XXVIII (Covenant Not to Sue), shall not relieve Defendant  
8   of its obligation to meet and maintain compliance with the re-  
9   quirements set forth in this Decree. The United States and EPA  
10   reserve all rights to take enforcement actions pursuant to the  
11   procedures specified in this Decree for violations of this  
12   Decree. EPA reserves the right to take any enforcement action  
13   pursuant to CERCLA and/or any other authority, including the  
14   right to seek response costs, injunctive relief, monetary  
15   penalties, and punitive damages for any civil or criminal viola-  
16   tion of law with respect to matters other than Covered Matters.

17           B. In the event EPA determines that Defendant has failed to  
18   implement the Remedial Action or any portion thereof in a timely  
19   or adequate manner, EPA or its designate may perform such por-  
20   tions of the Remedial Action as EPA determines may be necessary  
21   unless such portion of the work is the subject of dispute resolu-  
22   tion invoked by Defendant pursuant to Section XXII of this  
23   Decree. Before EPA or its designate commences performance, EPA,  
24   unless circumstances present an imminent and substantial endan-  
25   germent to public health, welfare or the environment, shall  
26   provide Defendant's Project Coordinator with fifteen (15) days  
27   advance written notice. Neither EPA nor its designate shall per-

1 form any portion of the remedial action if within fifteen (15)  
2 days after receiving EPA's notice, Defendant both agrees to cure  
3 any deficiencies in its performance described in EPA's notice and  
4 commences to cure such deficiencies. If EPA performs all or por-  
5 tions of the Remedial Action because of Defendant's failure to  
6 comply with its obligations under this Consent Decree, Defendant  
7 shall reimburse EPA for the costs of doing such work, to the ex-  
8 tent consistent with the NCP and in accordance with the provi-  
9 sions of Section XIX (Reimbursement of United States' Costs),  
10 plus penalties as set forth in Section XX (Stipulated Penalties).

11 C. Nothing in this Consent Decree shall be deemed to limit  
12 the response authority of EPA under Section 104 of CERCLA, 42  
13 U.S.C. § 9604, and under Section 106 of CERCLA, 42 U.S.C. § 9606,  
14 or under any other federal response authority. The United States  
15 reserves the right to seek reimbursement from Defendant for such  
16 costs incurred by the United States in taking any such response.

17  
18 XXVII. UNITED STATES' COVENANT NOT TO SUE

19 A. Subject to Section XXVI (Reservation of Rights), the  
20 United States covenants not to sue Defendant, under Sections 106  
21 or 107 of CERCLA or Section 7003 of RCRA, for Covered Matters.  
22 With respect to liability of Defendant on account of past  
23 response costs and oversight costs, this covenant not to sue  
24 shall take effect upon the receipt by EPA of the payments re-  
25 quired by Section XIX (Reimbursement of United States' Costs).  
26 With respect to the payment of past costs only, this covenant  
27 shall extend to the potential liability of Defendant for any

1 retroactive increase in the indirect cost portion of the past  
2 cost amount. With respect to liability of Defendant on account  
3 of all other Covered Matters, this covenant not to sue shall take  
4 effect upon certification of completion of the remedy pursuant to  
5 Section XXXVII (Certificate of Completion). This covenant not to  
6 sue is conditioned upon complete and satisfactory performance by  
7 Defendant of its obligations under this Consent Decree. This  
8 covenant not to sue extends only to Defendant and does not extend  
9 to any other person.

10 B. Defendant releases and covenants not to sue the United  
11 States including any and all departments, agencies, officers, ad-  
12 ministrators, and representatives thereof, for any claim,  
13 counter-claim, or cross-claim asserted, or that could have been  
14 asserted prior to the effective date of this Consent Decree or  
15 arising out of or relating to the Site, including but not limited  
16 to any direct or indirect claim for reimbursement from the Haz-  
17 ardous Substance Superfund (established pursuant to the Internal  
18 Revenue Code, 26 U.S.C. § 9507) established through CERCLA Sec-  
19 tions 106(b)(2), 111 or 112 or any other provision of law, or to  
20 seek any other costs, damages or attorneys' fees from the United  
21 States in connection with response activities at the Site or this  
22 Consent Decree. Nothing in this Consent Decree shall be deemed  
23 to constitute a preauthorization of a CERCLA claim within the  
24 meaning of Sections 111 or 112 of CERCLA, 42 U.S.C. §§9611, 9612,  
25 or 40 C.F.R. § 300.25(d). Defendant reserves the right to take  
26 actions against the United States based on negligent actions  
27 taken directly by the United States (not including oversight or  
28

1 approval of Defendant's plans or activities) that are brought  
2 pursuant to any statute other than CERCLA and for which the  
3 waiver of sovereign immunity is found in a statute other than  
4 CERCLA.

5 C. Notwithstanding any other provision of this Consent  
6 Decree, the United States reserves the right to institute  
7 proceedings in this action or in a new action or to issue an Or-  
8 der seeking to compel Defendant to perform any additional  
9 response work at or emanating from the Site, or to reimburse the  
10 United States for Response Costs, if:

11 (1) Prior to EPA certification of completion of the remedial  
12 action,

13 a. conditions at the Site, previously unknown to the  
14 United States, are discovered after the entry of this  
15 Consent Decree, or

16 b. information is received, in whole or in part, after  
17 the entry of this Consent Decree,

18 and these previously unknown conditions or this information indi-  
19 cates that the Remedial Action is not protective of human health  
20 and the environment;

21 (2) Subsequent to EPA certification of completion of the  
22 Remedial Action,

23 a. conditions at the Site, previously unknown to the  
24 United States, are discovered after the certification  
25 of completion by EPA, or

26 b. information is received, in whole or in part, after  
27 the certification of completion by EPA,

1 and these previously unknown conditions or this information indi-  
2 cate that the Remedial Action is not protective of human health  
3 and the environment.

4 D. Notwithstanding any other provision in this Consent  
5 Decree, this covenant not to sue shall not relieve Defendant of  
6 its obligation to meet and maintain compliance with the require-  
7 ments set forth in this Consent Decree, specifically including  
8 the conditions set forth in the ROD, which is incorporated  
9 herein. The United States reserves all its rights to take  
10 response actions at the Site, including the right (subject to  
11 paragraph B of Section XXVI above) to take response action in the  
12 event of a violation of the terms of this Consent Decree and to  
13 seek recovery of all related response costs and all other costs  
14 resulting from such violation.

15 E. The Covenant Not To Sue set forth in Paragraph A of this  
16 Section shall not apply to any matter which is not a Covered Mat-  
17 ter, including the following claims which are not Covered Mat-  
18 ters:

19 1. Claims based on a failure by Defendant to meet the  
20 obligations of this Decree;

21 2. Claims of the United States for any other costs or  
22 actions at the Site which are not expressly and exclusively un-  
23 dertaken pursuant to the terms of this Consent Decree;

24 3. Claims based on Defendant's liability arising from  
25 the past, present, or future disposal of Waste Materials outside  
26 of the Site and not attributable to the Site;



1           4. Claims for damage to federal property located any  
2 place that Remedial Action is being performed;

3           5. Claims based on criminal liability;

4           6. Claims based on liability for damage to natural  
5 resources as defined in CERCLA;

6           7. Claims based on liability for Waste Materials  
7 removed from the Site;

8           8. Claims based on liability for monitoring or over-  
9 sight expenses, including but not limited to those under Section  
10 XI (Periodic Review to Assure Protection of Human Health and the  
11 Environment), incurred by the United States except as those ex-  
12 penses are subject to Section XIX (Reimbursement of United  
13 States' Costs);

14           9. Claims based on liability for any violations of  
15 federal or state law which occur during implementation of the  
16 Remedial Action; or

17           10. Claims based on liability for other operable units  
18 at the Site.

19       F. Nothing in this Consent Decree shall constitute or be  
20 construed as a release or covenant not to sue regarding any claim  
21 or cause of action against any person, as defined in Section  
22 101(21) of CERCLA, or other entity not a signatory to this Con-  
23 sent Decree.

24  
25           XXVIII. WAIVER OF CLAIM SPLITTING DEFENSE

1 All Parties recognize and acknowledge that the settlement  
2 embodied in this Consent Decree is only a partial resolution of  
3 issues related to the remediation of conditions at the Site.  
4 Defendant hereby waives the defenses of res judicata, collateral  
5 estoppel, and claim-splitting by the Plaintiff, only with respect  
6 to the Plaintiff's pursuit of claims regarding Defendant's  
7 responsibility for Site work and costs not covered by this Con-  
8 sent Decree.

9  
10 XXIX. COMMUNITY RELATIONS

11 As requested by EPA, Defendant shall cooperate with EPA in  
12 providing information to the public and shall participate in the  
13 preparation of appropriate information disseminated to the public  
14 and in public meeting(s) which may be held or sponsored by EPA to  
15 explain activities at or concerning the Site. Defendant shall be  
16 given reasonable notice of the time of and subject matter to be  
17 discussed at any meeting. Defendant's obligations to cooperate  
18 and participate in preparation of information under this Section  
19 shall not preclude Defendant from presenting information or argu-  
20 ments in addition or in rebuttal to information disseminated by  
21 EPA.

22  
23 XXX. LODGING AND PUBLIC PARTICIPATION

24 A. Pursuant to Section 122(d) of CERCLA, 42 U.S.C. §  
25 9622(d), this Consent Decree will be lodged with the Court for at  
26 least thirty (30) days, and the United States will publish a  
27 notice of availability of review to allow public comment prior to  
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1 entry by the Court. The United States will provide persons who  
2 are not parties to the proposed settlement with the opportunity  
3 to file written comments during at least a thirty (30) day period  
4 following such notice. The United States will then file with the  
5 Court a copy of any comments received and the responses of the  
6 United States to such comments.

7 B. After the closing of the public comment period, the  
8 United States will review all comments and determine whether the  
9 comments disclose facts or considerations which indicate that the  
10 proposed settlement is inappropriate, improper or inadequate.  
11 The United States reserves its statutory right to withdraw or  
12 withhold its consent if the comments regarding the Consent Decree  
13 disclose facts or considerations which indicate that the Decree  
14 is inappropriate, improper or inadequate. If a modification is  
15 deemed necessary by the United States based on public comment,  
16 the United States will notify Defendant and the Decree may be  
17 modified in accordance with Section XXIV of this Decree prior to  
18 its entry. Defendant consents to the entry of this Consent Decree  
19 if the United States determines that no modification is required  
20 based on the public comments.

21  
22 XXXI. STATE AND LOCAL AGENCY PARTICIPATION

23 Unless otherwise requested by EPA, Defendant shall send  
24 copies of all deliverables in this Consent Decree to DHS and  
25 RWQCB for review at the addresses listed in Section XXIV above.  
26 DHS and RWQCB shall be given the opportunity to review the  
27 deliverables. After DHS and RWQCB have had the opportunity to  
28

1 review the deliverables, they shall have the opportunity to dis-  
2 cuss the deliverables with EPA and prepare collaborative com-  
3 ments. Any collaborative comments shall be submitted to Defen-  
4 dant as EPA comments. Defendant shall revise the deliverables  
5 according to the EPA comments as is required by the terms of Sec-  
6 tion VIII (Work to be Performed) of this Consent Decree.

7  
8 XXXII. INDEMNIFICATION AND INSURANCE

9 A. Notwithstanding any approvals which may be granted by  
10 the United States or other government entities, Defendant shall  
11 indemnify Plaintiff and save and hold Plaintiff, its officials,  
12 agents, contractors, representatives, agencies or departments  
13 harmless for any and all claims or causes of action arising from  
14 any acts or omissions of Defendant, its officers, employees,  
15 agents, receivers, trustees, successors, assigns, contractors,  
16 subcontractors, or any other person acting on their behalf in  
17 carrying out activities pursuant to this Consent Decree. Defen-  
18 dant shall not be required to indemnify Plaintiff with respect to  
19 that portion of any claim or cause of action attributed to the  
20 negligence of Plaintiff or its employees, agents or contractors.  
21 Plaintiff is not, and shall not be held out as, a party to any  
22 contract entered into by or on behalf of Defendant in carrying  
23 out activities pursuant to this Consent Decree. Neither Defen-  
24 dant nor any such contractor shall be considered an agent of  
25 Plaintiff.

1           B. Defendant shall indemnify and hold harmless Plaintiff  
2 with respect to any claims for damages or reimbursement from  
3 Plaintiff, or for any set-off of any payments made or to be made  
4 to Plaintiff arising from or on account of any contract, agree-  
5 ment or arrangement between Defendant and any person for perfor-  
6 mance of work on or relating to the Site, including claims on ac-  
7 count of construction delays.

8           C. Prior to commencing any on-Site work, Defendant shall  
9 secure and shall maintain for the duration of the performance of  
10 the work the following insurance covering claims arising out of  
11 activities or events related to this Consent Decree or the Site:  
12 (1) comprehensive general liability and automobile insurance with  
13 limits of three million dollars, combined single limit, naming  
14 the United States as an additional insured; provided, that with  
15 respect to the automobile liability insurance, the United States  
16 shall be named as an additional insured only with respect to the  
17 non-negligent acts of its employees; (2) professional liability  
18 insurance with limits of at least one million dollars per occur-  
19 rence; and (3) employer's liability insurance with limits of at  
20 least one million dollars per occurrence. In addition, for the  
21 duration of this Consent Decree, Defendant shall satisfy, or  
22 shall ensure that its contractors or subcontractors satisfy, all  
23 applicable laws and regulations regarding the provision of  
24 workmen's compensation insurance for all persons performing work  
25 on behalf of Defendant in furtherance of this Consent Decree.  
26 Prior to commencement of work under this Consent Decree, and an-  
27 nually thereafter, Defendant shall provide to EPA certificates of  
28

1 such insurance with respect to each insurance policy. If Defen-  
2 dant demonstrates by evidence satisfactory to EPA that any con-  
3 tractor or subcontractor maintains insurance equivalent to that  
4 described above, or insurance covering the same risks but in a  
5 lesser amount, then with respect to that contractor or sub-  
6 contractor Defendant need provide only that portion of the in-  
7 surance described above which is not maintained by the contractor  
8 or subcontractor.

9  
10 XXXIII. CONTINUING JURISDICTION

11 The Court specifically retains jurisdiction over both the  
12 subject matter of and the Parties to this action for the duration  
13 of this Consent Decree for the purposes of issuing such further  
14 orders or directions as may be necessary or appropriate to con-  
15 strue, implement, modify, enforce or terminate or reinstate the  
16 terms of this Consent Decree or for any further relief as the in-  
17 terest of justice may require.

18  
19 XXXIV. REPRESENTATIVE AUTHORITY

20 A. Each undersigned representative of the Defendant and the  
21 Assistant Attorney General of the Environment and Natural  
22 Resources Division, United States Department of Justice, cer-  
23 tifies that he or she is fully authorized by the Party to enter  
24 into and execute the terms and conditions of this Consent Decree,  
25 and to legally bind such Party to this Consent Decree.

1           B. Defendant shall identify, on the attached signature  
2 page, the name and address of an agent who is authorized to ac-  
3 cept service of process by mail on behalf of that Defendant with  
4 respect to all matters arising under or relating to this Consent  
5 Decree. Defendant hereby agrees to accept service in that manner  
6 and to waive the formal service requirements of the Federal Rules  
7 of Civil Procedure, including service of a summons, and any ap-  
8 plicable local rules of this Court.

9  
10                                   XXXV. EFFECTIVE DATE

11           This Consent Decree is effective upon the date of its entry  
12 by the Court.

13  
14                                   XXXVI. SEVERABILITY

15           If any provision or authority of this Consent Decree or the  
16 application of this Consent Decree to any circumstance is held by  
17 the Court to be invalid, the application of such provision to  
18 other circumstances and the remainder of the Consent Decree shall  
19 remain in force and shall not be affected thereby.

20  
21                                   XXXVII. CERTIFICATION OF COMPLETION

22           A. Within ninety (90) days after Defendant concludes that  
23 the Remedial Action has been fully performed, Defendant shall  
24 submit a notification of completion to EPA which demonstrates  
25 that Defendant has met all of its obligations under this Consent  
26 Decree. Upon submittal of this notification, Defendant shall  
27 schedule and conduct a pre-certification inspection to be at-

1 tended by Defendant and EPA. Within thirty (30) days after the  
2 inspection, Defendant shall submit a Work Completion Report. If  
3 EPA determines that the Remedial Action or any portion thereof  
4 has not been completed, or that other obligations have not been  
5 met, in accordance with this Consent Decree, EPA will notify  
6 Defendant in writing of the activities that must be performed to  
7 complete the Remedial Action and to meet any remaining obliga-  
8 tions under this Decree. EPA's notice shall contain a statement  
9 of the basis for its determination that Defendant has not com-  
10 pleted the Remedial Action or any other obligation under this  
11 Decree. EPA's notice shall set forth a schedule and specifica-  
12 tions for performance of the activities or require Defendant to  
13 propose such a schedule and specifications. Defendant shall per-  
14 form all activities described in the notice in accordance with  
15 the specifications and schedules established therein, or as  
16 proposed by Defendant and approved by EPA, or Defendant may in-  
17 voke dispute resolution under Section XXII above.

18 B. If EPA concludes, following the initial or any subse-  
19 quent notification of completion by Defendant, that the Remedial  
20 Action has been fully performed in accordance with this Consent  
21 Decree and that Defendant has met all of its obligations under  
22 this Consent Decree, EPA shall so certify in writing to Defen-  
23 dant. EPA shall also notify the Court of this certification.  
24 The certification shall constitute the "certification of comple-  
25 tion of remedial action" pursuant to Section 122(f)(3) of CERCLA  
26 and for purposes of this Consent Decree.



1 C. The issuance of such certification of completion shall  
2 not alter the Parties' rights and obligations as set forth in  
3 Section XVIII (Retention of Records), Section XXVII (Reservation  
4 of Rights), Section XXVIII (Covenant Not to Sue), Section XI  
5 (Periodic Review to Assure Protection of Human Health and the  
6 Environment), and Sections XIX (Reimbursement of United States'  
7 Costs).

8 D. Upon certification by EPA pursuant to this Section, the  
9 United States or Defendant may move the Court for termination of  
10 this Consent Decree. The Parties agree that an Order by the  
11 Court terminating the Decree shall not alter the Parties' rights  
12 and obligations as set forth in Section XVIII (Retention of  
13 Records), Section XXVII (Reservation of Rights), Section XXVIII  
14 (Covenant Not to Sue), Section XI (Periodic Review to Assure  
15 Protection of Human Health and the Environment), and Sections XIX  
16 (Reimbursement of United States' Costs).

17  
18 XXXVIII. SECTION HEADINGS

19 The section headings set forth in this Consent Decree and  
20 its Table of Contents are included for convenience of reference  
21 only and shall be disregarded in the construction and interpreta-  
22 tion of any of the provisions of this Consent Decree.

23  
24 XXXIX. COUNTERPARTS  
25  
26  
27  
28

1        This Consent Decree may be executed and delivered in any  
2        number of counterparts, each of which when executed and delivered  
3        shall be deemed to be an original, but such counterparts shall  
4        together constitute one and the same document.

5  
6  
7  
8                    XL. EFFECT ON ADMINISTRATIVE ORDER

9            On September 28, 1990, EPA issued Administrative Order No.  
10        90-25 to Defendant and KII pursuant to Section 106 of CERCLA.  
11        EPA agrees that execution of this Consent Decree by Defendant  
12        shall render that Order null and void and of no further effect.

13  
14        SIGNED and ENTERED this \_\_\_\_\_ day of \_\_\_\_\_, 1991.

15  
16  
17                    \_\_\_\_\_  
18                    UNITED STATES DISTRICT JUDGE

19  
20  
21        By the signatures below the Parties hereby agree to the foregoing  
22        Consent Decree:

23        FOR DEFENDANT BEAZER EAST, INC.

24  
25        RG Hamilton  
26        ROBERT G. HAMILTON  
27        Vice President and General Manager,  
28        Program Services

DATE: December 20, 1990

1 Agent for Service of Process:  
2 Vice President, Secretary and General Counsel  
3 Beazer East, Inc.  
4 436 Seventh Avenue  
5 Pittsburgh, PA 15219

6 FOR PLAINTIFF UNITED STATES OF AMERICA


7 

8 RICHARD B. STEWART  
9 Assistant Attorney General  
10 Environment and Natural Resources Div.  
11 United States Department of Justice  
12 Washington, D.C. 20044

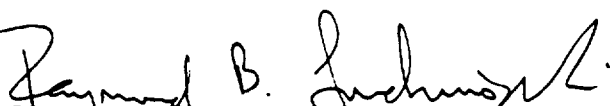
DATE: 5-24-91

13   
14 DAVID F. LEVI  
15 United States Attorney

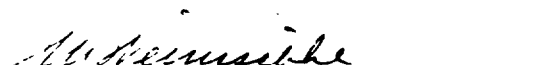
DATE: \_\_\_\_\_

16   
17 DANIEL W. MCGOVERN  
18 Regional Administrator  
19 Environmental Protection Agency  
20 Region IX  
21 75 Hawthorne Street  
22 San Francisco, California 94105

DATE: Feb. 26, 1991

23   
24 ~~James M. Strock~~ RAYMOND B. LUDWISZEWSKI, Acting  
25 Assistant Administrator for the  
26 Office of Enforcement  
27 Environmental Protection Agency  
28 Washington, DC 20460

DATE: 4/9/91

29   
30 WILLIAM A. WEINISCHKE  
31 Environment & Natural Resources Div.  
32 U.S. Department of Justice  
33 P.O. Box 7611  
34 Ben Franklin Station  
35 Washington, D.C. 20044

DATE: 4/29/91

## APPENDIX A

(Note: Appendix A is the Record of Decision which is already in the Administrative Record for the Koppers site as document #513 & the explanation of significant differences, Administrative record #514)

## APPENDIX B

### REMEDIAL OBJECTIVES Koppers Superfund Site Oroville, California

<u>Media</u>	<u>Chemical</u>	<u>Units</u> <sup>a</sup>	<u>Goal</u>
<b>Soil</b>	Arsenic	ppm	Background <sup>b</sup>
	Chromium	ppm	Background
	Carcinogenic PAHs <sup>c</sup>	ppm	0.19
	PCDD/PCDFs <sup>d</sup>	ppt	30
	Pentachlorophenol	ppm	17
<b>Sediments</b>	Arsenic	ppm	Background
	Carcinogenic PAHs	ppm	11
	PCDD/PCDFs	ppb	1.8
<b>Groundwater</b>	Arsenic	ppb	Background
	Barium	ppb	680
	Boron	ppb	1200
	Chromium	ppb	50
	Isopropyl ether	ppb	2800
	Carcinogenic PAHs	ppb	0.007
	PCDD/PCDFs	ppq	0.53
	Pentachlorophenol	ppb	2.2

<sup>a</sup> ppm = parts per million  
 ppb = parts per billion  
 ppt = parts per trillion  
 ppq = parts per quadrillion

<sup>b</sup> Background concentrations will be determined during remedial action.

<sup>c</sup> Carcinogenic Polynuclear Aromatic Hydrocarbons (PAHs) are Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, and Indeno(123-cd)pyrene.

<sup>d</sup> Polychlorinated dibenzodioxins and polychlorinated dibenzofurans

APPENDIX C

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DECEMBER 19, 1990  
STATEMENT OF WORK  
FOR REMEDIAL ACTION  
FEATHER RIVER PLANT  
OROVILLE, CALIFORNIA



**DAMES & MOORE**

December 19, 1990  
JOB NO. 18804-025-131

DECEMBER 19, 1990  
STATEMENT OF WORK  
FOR REMEDIAL ACTION  
FEATHER RIVER PLANT  
OROVILLE, CALIFORNIA

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## **1.0 INTRODUCTION**

This Statement of Work (SOW) identifies four tasks to be performed by Beazer East Inc. ("Beazer"), to achieve the remedial goals stated in the Record of Decision (ROD) and modified by the Explanation of Significant Differences (ESD):

- Task 1: Off-Property Groundwater Remediation
- Task 2: On-Property Groundwater Remediation
- Task 3: Installation of Plant Area Cap and Extraction of Shallow Groundwater
- Task 4: Soil Remediation

To complete each task, Beazer will design, construct and operate initial phase remediation systems, prepare reports describing the operation and effectiveness of the treatment units, and perform necessary additional remedial design and action during a second phase of soil and groundwater remediation.

Brief descriptions of each task are provided in the following sections.



## **2.0 TASK 1 - OFF-PROPERTY GROUNDWATER REMEDIATION**

To remediate the off-Property groundwater, Beazer will install an extraction and treatment system in two phases. The initial phase will involve the expeditious design, installation, and operation of an extraction well-field, a groundwater treatment unit, a groundwater recharge system, a surface water discharge system and a groundwater monitoring program. The system will be designed to process approximately 600 gallons per minute of extracted groundwater.

During the first phase of remediation, information will be obtained on the effects on the aquifer of continuous high-volume pumping, the pentachlorophenol removal rate, the optimum number of extraction wells needed, the long-term performance of the treatment system, and options available for discharge of the treated water. The data generated during the first phase of remediation will be used for development of design criteria for any necessary second phase of remediation. If the EPA determines that the initial objectives described herein are not met during the initial phase of remediation, Beazer will perform additional remedial design and action during the second phase of remediation. The second phase of remediation involves design, construction and operation of an expanded system should expansion be deemed necessary.

Design of the initial off-Property extraction well-field is underway. Design objectives include optimizing extraction rate, maximizing removal of constituents of concern identified in the ROD, optimizing the number of extraction wells, and providing for flexibility in the well-field operation.

Design of the initial groundwater treatment unit is also proceeding. As specified in the ROD, activated carbon will be used to treat off-Property groundwater. Beazer will select a treatment unit, prepare prefinal system designs including engineering drawings, construction specifications, and bid documents, and upon approval by EPA, will prepare final design documents. Upon completion of the design documents, vendors, builders, and

operators will be contracted to provide required materials and services for construction and installation of the initial groundwater extraction and treatment system.

During the initial phase of off-Property groundwater remediation, Beazer will operate a treatment system for a period of up to fifteen months. In addition to extraction and treatment of groundwater, the purpose of the initial operating phase includes optimizing system parameters such as pumping rates, pretreatment techniques, well-field and treatment unit operations and maintenance, and discharge methods and rates. Monitoring of groundwater will continue because these data will be required to optimize system performance and to evaluate whether the design objectives and Remediation Goals are being met. Uses and effectiveness of the current monitoring network will be reviewed prior to the initial operation phase to evaluate whether the current network is adequate to provide information on, at a minimum, system performance, plume migration and the response of the plume and aquifer to extraction and recharge. Beazer will then submit a proposed monitoring program to EPA as provided in Section VIII of the Decree.

During and after the initial phase of remediation, the data produced will be evaluated to determine whether modifications to the remediation system, including expansion and additional monitoring, will be necessary. These evaluations will be discussed in progress reports, off-Property groundwater monitoring reports, and in the Off-Property Groundwater Remedy Report as provided in Section VIII of the Decree.

Key components of Task 1 are described below.

- Groundwater Modeling: Based on the existing hydrogeological data, groundwater flow and chemical transport modeling will be conducted to estimate well locations and pumping rates required to control further migration of the impacted groundwater. Simulations of recharge of treated groundwater will be included in the modeling work.

- Review of Monitoring Network: The monitoring network will be reviewed to evaluate whether the current network is adequate to provide information on, at a minimum, system performance, plume migration and the response of the plume and aquifer to extraction and recharge. Beazer will then submit a proposed monitoring program to EPA as provided in Section VIII of the Decree.
- Engineering Design of Off-Property Remediation System: Prefinal design documents will be submitted to EPA for review as provided in Section VIII of the Decree. Details of the initial remediation system, including well-field and treatment unit design, system layout, piping and instrumentation, power supply, and electrical control will be provided in bid ready civil, mechanical, and electrical engineering drawings.
- Obtaining Land Use Rights: In accordance with Section XIV of the Decree, Beazer will attempt to obtain access, right-of-way, and other land use agreements with property owners.
- Treated Water Discharge Permits: An NPDES permit application is currently being prepared and will be submitted to the California Regional Water Quality Control Board (RWQCB) for temporary discharge of treated water to Wyman Ravine.
- Contract with Vendors: After the design has been finalized, Beazer will contract with vendors of equipment and services which will be needed for construction and operation of the system.
- Construction of Treatment Unit: Beazer will then construct the off-Property treatment unit after necessary approvals by local, state, and federal agencies.

- Extraction Well-Field Installation: Because large volumes of development water will be produced during the extraction well drilling operations, the extraction well-field will be installed concurrently with treatment unit construction, and well development water will be routed to the treatment unit.
- Treatment System Operation: The remediation system will be operated continuously with the exception of down time due to maintenance requirements. Treatment data will be collected in accordance with an approved Sampling and Analysis Plan to evaluate the system efficiency and effectiveness.
- Pumping Tests and Monitoring: Following installation of extraction wells, pumping tests will be conducted to characterize further the aquifer and the quality of the extracted groundwater. Groundwater surface elevations will be monitored in several wells to verify that the system is providing hydraulic control of groundwater.
- Recharge Wells: In accordance with the ROD, Beazer will design, install and operate during the initial remediation phase a recharge system adequate to evaluate the performance and effects of long-term use of recharge wells for a 600 gpm discharge.
- Evaluation of Surface Water Discharge: The treated groundwater will be temporarily discharged to Wyman Ravine in accordance with the NPDES permit to be obtained from the RWQCB. Beazer may evaluate the feasibility of continued discharge of treated groundwater to Wyman Ravine as an alternative to recharge.

- Reuse of Treated Groundwater: Beazer may evaluate the feasibility of reuse of treated groundwater by nearby industrial and/or agricultural operations as an alternative to recharge.
- Off-Property Groundwater Remedy Report: Within fifteen months after start up of the off-Property groundwater treatment system, Beazer shall submit to the EPA a report containing conclusions and recommendations regarding the effectiveness of the off-Property groundwater remediation system, including the extraction, treatment and recharge components. Beazer will also include updated groundwater modeling based on data generated during the initial operating phase. As described in Section VIII of the Decree and following submission and EPA approval of the Site-Wide Remedy Report, Beazer will perform the second phase of off-Property groundwater remediation.

### **3.0 TASK 2 - ON-PROPERTY GROUNDWATER REMEDIATION**

To remediate the on-Property groundwater, Beazer will install an extraction and treatment system in two phases. The initial phase will involve the expeditious design, installation, and operation of an extraction well-field, a groundwater recharge system, and a groundwater treatment unit. This on-Property groundwater remediation system will be designed to control migration of chemicals detected in on-Property groundwater, particularly pentachlorophenol. The system will be designed to process several hundred gallons per minute of extracted groundwater.

The initial remediation system will also be used to generate data on technical aspects of the remediation effort. These aspects which will be evaluated during the initial on-Property groundwater remediation include:

- the effects on the aquifer of continuous high-volume pumping;
- the pentachlorophenol removal rate;
- the effects of on-Property pentachlorophenol concentrations on treatment system performance and maintenance requirements;
- the treatability of creosote oil and wastewater generated from soil remediation and free oil recovery; and
- the optimum number of extraction wells needed.

The data generated during the first phase of remediation will be used for development of design criteria for the second phase of remediation. The second phase of remediation involves design, construction, and operation of an expanded system should expansion be deemed necessary.

Currently a wastewater treatment unit known as BIFAR and designed by Keystone Environmental Resources, Inc., is processing on-Property groundwater from recovery well RW-2 at a rate of approximately 200 gallons per minute. A carbon adsorption system has recently been installed to complement the existing BIFAR system. The effectiveness of BIFAR in meeting the Remediation Goals is currently being evaluated. To complete the initial groundwater remediation system, additional treatment capacity will be installed to treat water from other wells. This system will be designed to treat groundwater containing site-related chemicals, free oil, and process water from initial soil treatment activities.

The initial on-Property groundwater remediation system will be operated for a period of up to eighteen months for the purpose of optimizing system parameters. During this initial phase, monitoring of groundwater will continue because these data will be required to optimize system performance and to evaluate whether the design objectives are being met.

During and after the initial phase of remediation, the data produced will be evaluated to determine the effectiveness of the remediation system and the need for any modifications. These evaluations will be discussed in progress reports and in the Site-Wide Remedy Report. The second phase of remediation will then proceed.

Key components of Task 2 are described below.

- Arsenic and Chromium Background Study: Background concentrations of arsenic and chromium in local groundwater will be studied. The background concentrations of arsenic and chromium in local groundwater will be compared to levels detected in on-site groundwater to enable EPA to finalize remedial objectives for arsenic and chromium.
- On-Property Groundwater Modeling: Based on existing hydrogeological data, groundwater flow and chemical transport modeling will be conducted to

determine well locations and pumping rates required to capture impacted groundwater. These models will also provide an estimate of the pentachlorophenol, creosote, arsenic, and chromium concentrations in the extracted groundwater and will be used to evaluate the impact of Louisiana Pacific's supply well on extraction system effectiveness. Simulations of recharge of treated groundwater will be included in the modeling work.

- Engineering Design of Initial Remediation System: The design of the on-Property groundwater remediation system will begin with a conceptual design of processes required for removal of pentachlorophenol, arsenic, chromium, and free oil. The details of the system including well-field connection, system layout, piping and instrumentation, power supply, and electrical controls will then be provided in bid-ready civil, mechanical, and electrical engineering drawings.
- Treated Water Discharge Permits: For purposes of this SOW, it is assumed that permits will be required in order to discharge, recharge, or reuse treated groundwater from the system. Applications for the appropriate permit(s) will be submitted to the regulatory agencies for approval unless EPA determines that permits are not necessary.
- Contract With Vendors: After the design has been finalized, vendors will be contracted to provide equipment and services which will be needed for construction and operation of the system.
- Construction of Treatment Unit: Beazer will then construct the on-Property groundwater treatment unit after approvals by local, state and federal agencies have been granted.



- Extraction Well-Field Installation: Because large volumes of development water will be produced during the extraction well drilling operations, the extraction well-field will be installed concurrently with treatment unit construction, and well development water will be routed to the treatment unit.
- Initial System Operation: The initial remediation system will be operated continuously with the exception of any necessary down time due to maintenance requirements. Treatment data will be collected and used to evaluate the system efficiency and effectiveness for treatment of both groundwater and process water from the soil remediation systems. The system will be operated for a period of up to eighteen months. An eighteen-month evaluation period is necessary due to the complex nature of the on-Property groundwater, which may require treatment for removal of pentachlorophenol, arsenic, chromium, creosote constituents and free creosote. In addition, the free creosote recovery system will be optimized during this time period. The initial system operation will provide essential data needed for design during the second phase of remediation.
- Pumping Tests and Monitoring: Following construction of the treatment system and installation of the extraction wells, pumping tests will be conducted to further characterize the aquifer and the quality of the extracted groundwater. Groundwater surface elevations will be monitored in several wells to verify that the system is providing hydraulic control.
- Recharge Wells: In accordance with the ROD, Beazer will design and implement during the initial remediation phase a recharge system adequate to evaluate the performance and effects of long-term use of recharge wells for the on-Property groundwater remediation system discharge.

- Evaluation of Existing Discharge: The treated groundwater from the BIFAR system is currently being discharged to a ditch on-Property that flows off-Property into the Louisiana Pacific (LP) log deck pond. Beazer may evaluate the feasibility of continuing surface discharge of treated groundwater.
- Reuse of Treated Water: Beazer may evaluate the feasibility of reuse of treated groundwater by the nearby industrial and/or agricultural operations as an alternative to recharge.
- Data Evaluation and Reporting: The results of updated modeling, groundwater monitoring and data analyses and conclusions regarding the effectiveness of the initial on-Property groundwater remediation system will be presented in the Site-Wide Remedy Report described in Section 5.1 of the SOW. The report shall include recommendations regarding the design and operation of the second phase of the on-Property groundwater remediation.

#### **4.0 TASK 3 - INSTALLATION OF PLANT AREA CAP AND EXTRACTION OF SHALLOW GROUNDWATER**

Soil Unit S3 (S3) is the area currently used for wood treatment operations. This area will be capped with an impermeable cover and a shallow extraction well system will be installed to intercept the groundwater beneath the area. However, the cap design and placement will be compatible with on-Property plant operations. This is consistent with the ROD which allows continued plant process operations while controlling soils and preventing groundwater migration away from the plant area. Portions of this cap will serve as a drip track area for wood-treating operations.

The cap will be designed to reduce vertical migration of chemicals in S3 soils, mitigate future impacts of ongoing operations, and contain surface water runoff from areas of the cap in which active plant operations impact the surface of the cap. This runoff will ultimately be routed to an on-site wastewater treatment facility.

A shallow groundwater extraction system will be designed concurrently with the cap and the initial on-Property groundwater remediation system. The shallow extraction well-field for S3 will be an integral component of the total extraction well-field for on-Property groundwater remediation. However, the primary function of these shallow wells will be to remove shallow perched water and free product in the vicinity of the operating wood treatment plant in order to prevent migration of contaminated groundwater away from the soil unit. The water extracted by these wells will be processed in the initial on-Property groundwater treatment unit.

Beazer will perform remediation of soils in S3 in accordance with Section VIII of the Decree.

## **5.0 TASK 4 - SOIL REMEDIATION**

### **5.1 DESIGN AND OPERATION OF INITIAL SOIL TREATMENT UNITS**

The soil treatment techniques described in the ROD include in situ bioremediation, excavation and soil washing, and soil fixation. These remedial technologies will be implemented in two phases. The initial phase will involve designing, installing, and operating treatment units to remediate soil from specified areas of the site including the former creosote pond area in Unit S2, the former pole-washer area in Unit S1, and areas containing relatively high metal concentrations in Unit S4. The initial phase will also provide information needed for implementation of the second phase of remediation, including the design, construction and operation of the soil treatment processes contemplated by the ROD.

Implementation of the initial remediation systems requires brief predesign activities to characterize soils according to physical properties and perform bench-scale testing. Beazer will produce data on the engineering properties of the soil materials, including grain size distribution, plasticity of fines, types of clays, organic content, and permeability. Bench-scale tests will then be used to generate preliminary information about the effectiveness of remedial technologies in removing chemicals from each of the soil types identified. As outlined in the ESD, Beazer will also gather additional data to evaluate the potential of contaminated subsurface soils to act as a source of continuing groundwater contamination. This work will include an evaluation of the leachability and degradation of subsurface soil contaminants under conditions that exist at the site.

After initial soil remediation systems are designed and constructed, information will be continuously collected regarding treatment effectiveness and performance. For ex situ soil washing, data will be collected on the influence of soil/solvent hydraulics, residence time, pH and temperature, and other variables. The effectiveness of chemical fixation will be evaluated in part by measuring the ability of fixed soils to withstand weathering. In situ

biodegradation treatment systems will be evaluated by using varied techniques to deliver nutrients and oxygen to the subsurface and measuring the resulting microbial growth and microbial use of site-related chemicals as carbon sources. All of these variables will be evaluated during the initial phase of soil remediation, which has a duration of up to eighteen months after design and installation.

During and after the initial operating period, Beazer will evaluate the data produced. The results of these evaluations will be described in progress reports and the Site-Wide Remedy Report, prepared within thirty months of the effective date of the Consent Decree.

Key components of the design and operation of soil treatment units are described below.

- Characterization of On-Property Soils: To classify on-Property soils based on their engineering properties, analyses will be performed to determine grain size distribution, plasticity of fines, types of clays, organic content, and in situ permeability. The continuity and distribution of various soil types throughout the area requiring remediation will also be determined. Soil classification maps delineating different soil types will then be prepared for shallow and deep soils. Since the effectiveness of a treatment technology for soil remediation is dependent in part on the engineering properties of the soil, the soil classification base maps will facilitate preselection of soils for the implementation of the site-wide remedy.
- Source Potential of Subsurface Soils: Beazer will perform field and laboratory testing to evaluate the leachability and degradation of contaminants in subsurface soils and their resulting impacts on groundwater quality. The results will enable EPA to select cleanup standards for contaminants in subsurface soil that will protect groundwater.

- **Bench-Scale Tests:** Beazer will perform laboratory testing to evaluate the relationship between the physical characteristics of soils and ability of the remediation technologies to remove chemicals from the soil matrix.
- **Arsenic and Chromium Background Study:** Beazer will study background concentrations of arsenic and chromium in local soils. Concentrations of arsenic and chromium detected in local soils will be compared with concentrations of arsenic and chromium detected in on-Property soils. The results will enable EPA to finalize remedial objectives for arsenic and chromium. The areas of the Property where the soil concentrations of arsenic and chromium exceed local background will be delineated. In addition, Beazer will evaluate the geologic history that may have resulted in locally concentrated levels of arsenic and chromium.
- **Selection of Initial Phase Remediation Sites:** Based on the information in the soil classification base map and the chemical characteristics of the soils, plots will be selected which are representative of the on-Property soil and amenable to in situ bioremediation, ex situ soil washing, and chemical fixation. The soils used in the initial phase of remediation will be selected based on two criteria: 1) the potential treatability of the soils as determined by the physical characterizations described above; and 2) the concentration of pentachlorophenol, creosote, and/or metals, which should be varied to provide a full range of treatment challenges. The anticipated location and volume of soils which will be chosen for each initial phase of remediation are described below.

**Initial In Situ Bioremediation Site:** The former pole washer area is believed to contain soils with a high potential for treatment by in situ biodegradation. One or more systems covering an area of at least 2,500 square feet will be operated during the initial phase of remediation.

**Initial Ex Situ Soil Washing Site:** In accordance with the ROD, ex situ soil washing will be used in initial soil remediation systems. The former creosote pond area is believed to contain soils with a high potential for treatment by ex situ soil washing. Surficial soil from the creosote pond area will be given the highest priority as a potential source for soil for the initial soil washing remediation system. The initial phase remediation system will be designed to treat a soil volume of approximately 6,000 cubic yards.

**Initial Chemical Fixation Site:** The area identified as S4 in Figure 3 contains soils with elevated concentrations of metals. The initial chemical fixation system will be designed to process several hundred cubic yards of this soil during the initial operating period.

After site selection, design and implementation will proceed.

- **Design and Approval of Initial Soil Remediation Systems:** The initial phase of remediation will include designs submitted to EPA for approval. The designs will include preparation of bid-ready engineering drawings and other design documents necessary to construct the units.
- **Contract with Vendors:** After the designs have been finalized, vendors will be contracted to provide equipment and services which will be needed for construction and operation of the systems.
- **Construction of Treatment Units:** Beazer will then construct the in situ bioremediation, ex-situ soil washing, and chemical fixation treatment units after necessary approvals by local and state and federal agencies.
- **Initial Soil Remediation System Operation:** As described previously, the initial soil remediation systems include an in situ bioremediation unit, an ex-

situ soil washing unit and a soil fixation unit. The period of operation and operational parameters which will be evaluated for each soil remediation system are described below.

**In Situ Bioremediation:** The initial system will operate for up to eighteen months to determine the effectiveness of various in situ bioremediation approaches in remediating the soil under varying conditions. The effectiveness of in situ bioremediation process depends in part on the temperature and moisture content of the soils, the concentration of chemicals in soil, and the performance and viability of microorganisms. It is necessary to evaluate bioremediation under various seasonal conditions, in various soil and chemical environments, and with varied nutrient and oxygen availability. In addition, the control techniques that may be required to optimize the system operation under varying conditions must be evaluated during this period. Information on the ability of the bacteria to degrade the chemicals in soil must be acquired over an extended period to quantitatively evaluate performance. These data include the threshold concentrations of chemicals (i.e., the lower and upper chemical concentrations at which microbiological life may be sustained), and the residual concentrations remaining in soil after treatment.

**Ex Situ Soil Washing:** The initial phase of remediation will include operation of the ex situ treatment unit for a period of up to fifteen months. During this period Beazer will determine the effectiveness of soil washing in achieving Remediation Goals under varied process and meteorological conditions. Beazer will evaluate the effects on system performance of varying parameters such as the physical characteristics of soils, soil/solvent mixture characteristics and mixing techniques, and process pH and temperature.



**Chemical Fixation:** The initial phase of remediation will include operation for a period of up to six months. System parameters which will be evaluated over this time period include the mixing qualities of soil/fixative solutions, the chemistry of metal fixation and material handling problems encountered. The fixed soil will be monitored for a period of six months to demonstrate the leachability under various meteorological conditions.

Beazer will evaluate the data obtained from the initial soil treatment unit operations to determine the effectiveness of each technology for the selected soils. Recommendations and findings regarding the initial soil remediation systems will be presented in progress reports as set forth in Section VIII of the Decree and the Site-Wide Remedy Report. Should preliminary data generated during the initial operating period indicate that changes are necessary, these indications will be discussed with EPA and implemented upon approval. The second phase of soil remediation will be initiated after submittal and EPA approval of the Site-Wide Remedy Report.

- Site-Wide Remedy Report: Within thirty months of the effective date of the Decree, exclusive of EPA review time, Beazer will submit to EPA a Site-Wide Remedy Report describing the operation and effectiveness of the soil treatment units, including conclusions and recommendations regarding their effectiveness in achieving Remediation Goals. As described in Section VIII of the Decree, Beazer will perform the second phase of soil remediation following submission and EPA approval of the Site-Wide Remedy Report.



December 19, 1990

FIGURE 1

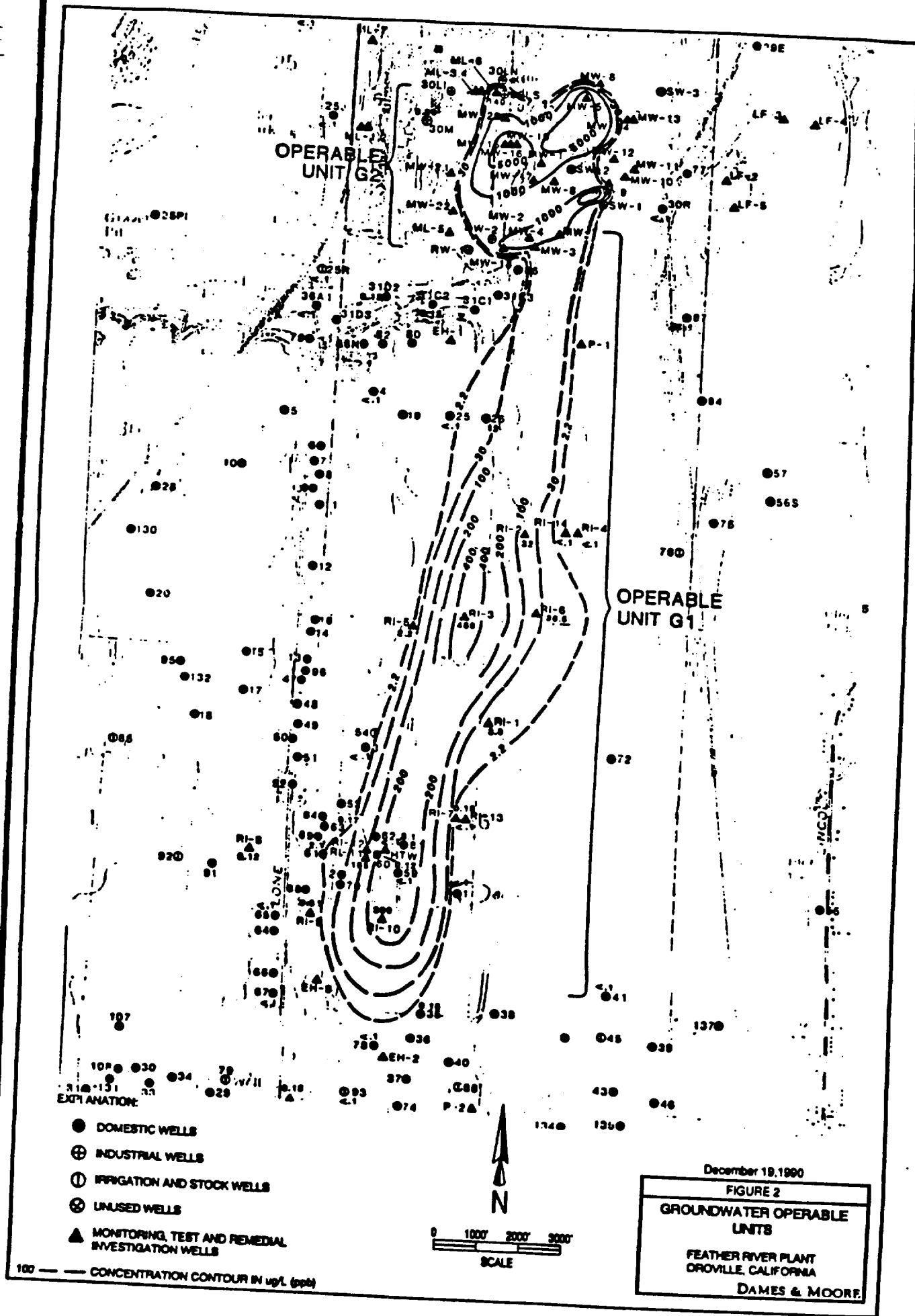
LOCATION MAP

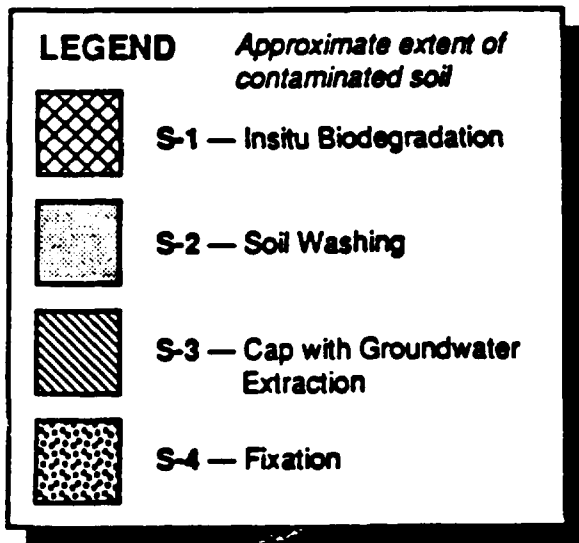
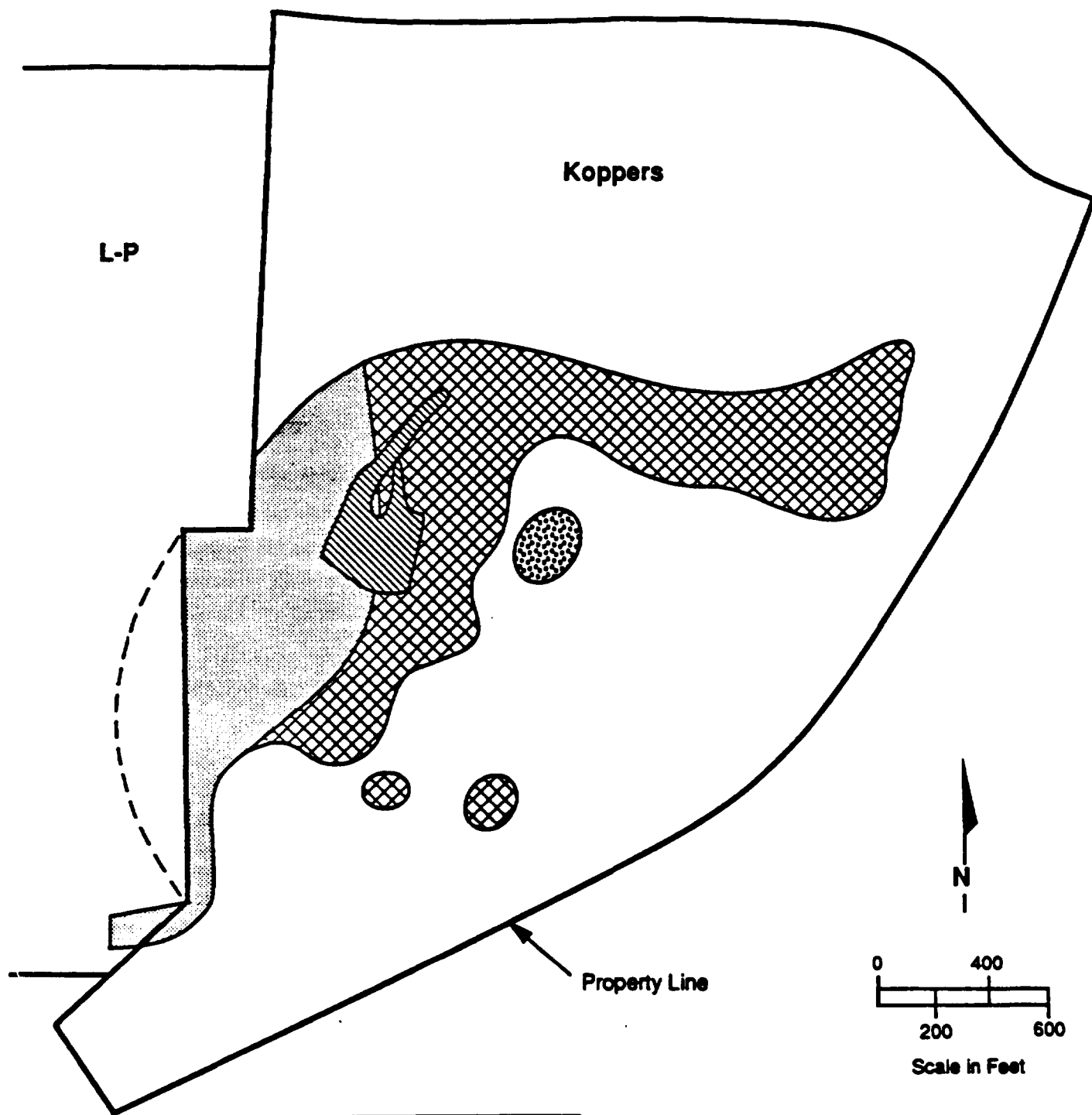
FEATHER RIVER PLANT  
OROVILLE, CALIFORNIA

Dames & Moore



Revised 1988 7.5' Quadrangle Oroville, Ca. 1979  
and Palmdale, Ca. 1979





#### SOIL UNITS IDENTIFIED IN THE ROD

December 1990  
18804-025-131

Beazer East, Inc.  
Feather River Plant  
Oroville, California